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SOUTHERN INDIAN LAKE AND HYDRO DEVELOPMENT

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MANITOBA ENVIRONMENTAL COUNCIL

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CHAIRMAN'S MESSAGE

The Manitoba Environmental Council's action with regard to the Hydro development at Southern Indian Lake, clearly illustrates the fulfillment of its role as an environmental sentinel.

After its establishment in 1972, the Council accomplished its first major task on January 19th, 1973, when it arranged for a full day of presentations in regard to the then imminent Hydro development involving the Churchill River Diversion and the raising of the Southern Indian Lake by 3 metres. The dramatic environmental impact of the already made decision to proceed with this project in 1973 was clearly indicated during the presentations of that particular meeting. Based on the overwhelming evidence received, Council advised the Minister to discontinue this project.

Today, eight years after the hydraulic control structure at the northern outlet of Southern Indian Lake has been constructed, the first assessment surveys have been completed by the Freshwater Institute, Department of Fisheries and Oceans. The results indicate that not only all predictions have become reality, but in many respects, the environmental affects are more severe than previously foreseen. This will require re-evaluation of present literature, if future environmental impact analysis of reservoirs are to be improved.

Council's resolution of January 1973 expressed also the desire to publish the proceedings of that meeting. I am extremely pleased that we are now in the position to fulfill this mandate by issuing this publication. Its content will demonstrate Council's efforts in regard to this issue and perhaps in a small measure, assist in the comparison of pre-construction predictions and actually assessed impacts during the next decades.

ATISH C. MANIAR
Chairman of Council

September 1984

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FOREWORD

The contents of TOPICS 3 represent the proceedings of one of the Council's first activities -- a presentation of views regarding hydro development on Southern Indian Lake, held on January 19, 1973 at the Legislative Buildings, Winnipeg. As indicated that day, the results were considered worthy of publication. Are they still pertinent now? This question was assessed by the Council's Publication Committee in 1979 being decided in the affirmative.

This decision was based on the view that very little published information exists on the subject. The Council reported, in its Annual Report One, only a resolution approved at the meeting. Yet Southern Indian Lake hydro development represents one of the first large environmental problems to arise in Manitoba during the environmental 70's. This factor alone indicates that eventual publication of these proceedings is warranted.

The Publications Committee and the editors recognized that material had been published subsequent to these 1973 presentations. It was intended to compile a bibliography to inform prospective readers of this literature. Unfortunately, the proposed bibliography remains as a desideratum. As the years rolled into the decade, it was decided to forgo this supplement, otherwise publication would be even further deferred.

The reader will also discover that a second related subject was discussed. This was the idea of a western power grid. This topic has resurfaced during the last several years, although its earlier appearance is scarcely ever mentioned.

For these reasons, the editors have no hesitation in recommending this Council topics to the reader's attention. Perhaps this record of the views of the opposing sides on this environmental mega project will be of benefit in ameliorating concerns of future environmental issues.

David Hatch and J. J. Keleher, Editors.

January 5, 1983

ACKNOWLEDGEMENTS

The Editors are grateful to Dr. Robert W. Newbury for supplying the illustrations used in this publication. The maps (Illustrations 1 and 2) originally appeared with the paper entitled "The Southern Indian Lake Impoundment and Churchill River Diversion", authored by R.W. Newbury, et al, in the Canadian Journal of Fisheries and Aquatic Sciences, Vol. 41, No. 4 - 1984. The other illustrations are photos taken by Dr. Newbury prior to 1973. The associated captions were also prepared by Dr. Newbury.

1.0 INTRODUCTION - Lloyd Axworthy and Ken Arenson

The purpose of this meeting is for the Manitoba Environment Council's deliberation and assessment of the proposed hydro-electric program in northern Manitoba. By way of explanation why this meeting was called, we received a representation from a group of scientists and engineers, who had been involved in a study of the program in northern Manitoba, concerning the fact that information they had acquired or concerns that they had developed indicated that this particular program could have severe and significant environmental impact. They felt it was important that this Council have the opportunity to assess for itself and to transmit its own concerns, if that is its interest, to the government.

We therefore, at an Executive Committee meeting in early December, invited Dr. Bob Newbury, of the Civil Engineering Department at the University of Manitoba, to present to the Executive Committee his information to see if it warranted further consideration by the total Council. After Dr. Newbury's presentation and a fairly extensive question period, the Executive Committee concluded that, in fact, the indication of environmental impact was such that it warranted a special meeting of Council. So it was on that basis that we issued the invitation to all of you to attend the meeting today. After we hear the different presentations, you will agree with the step we took in calling the Council together.

We assigned to Mr. Ken Arenson, Vice-Chairman of Council, the responsibility of putting together a program of presentations. Invitations would go out to all those who were interested in presenting a facet of the case, or presenting an argument. It was Mr. Arenson's responsibility both to sift through those briefs and to draw up a presentation for you.

Without prolonging it any longer, I'll turn the program over to Mr. Arenson. The order of business is that we will have individual presentations, followed by a short question period basically of an informational kind, and then once the presentations are concluded, we can enter into our own debate and discussion. So I'll ask Mr. Arenson now to explain the rationale and the explicit briefs we will be hearing today.

MR. ARENSEN: Thank you, Mr. Chairman. The Officers of the Council were instructed by the Executive to prepare a letter of invitation to those individuals or groups that might be able to come forward and provide an overview of the issue that is in front of the Council. We chose two strategies of reaching these people. The first and obvious one is the advertisement in the paper that the Council was going to hold this meeting. We invited people to identify themselves to me or to Mr. Axworthy. Also, the Officers of the Council, myself, as Vice-Chairman, Mr. Axworthy, as Chairman, and Mr. Henry Bloy, as Secretary, agreed on a list of people that we felt the Council would like to receive. So, on behalf of the Officers, I composed and distributed a letter inviting certain people and groups. In essence, it said that we thought that they had information that could assist the Council in discharging its duty to the government of providing advice on this environmental matter.

The people invited were Mr. David Cass-Beggs and Mr. Len Bateman of Manitoba Hydro, Mr. Tom Weber, Director of the Water Resources Branch, Mr. Andy Little, President of Pollution Probe, Dr. David Punter, President of the Manitoba Naturalists, Mr. Dave Courchane, President of the Manitoba Indian Brotherhood, Mr. Sam Fulham, Manitoba Metis Federation, Mr. Angus Spence, President of the Manitoba Metis Federation, Professor C. G. Morley, Chairman of the Friends of the Churchill, and then a number of people, most of whom have participated in the Lake Winnipeg - Churchill River - Nelson River Study Board. Dr. R. W. Newbury, University of Manitoba, Mr. Oscar Mallory, University of Winnipeg, Dr. Ian Dickson, the Director of the Study, Dr. Andrew Hamilton, of the Fisheries Research Board, Mr. Gene Tee, a Special Projects Officer in the Department, Dr. Art Sparling of the Civil Engineering Department, Dr. V. Gallet of the Civil Engineering Department and Mr. Brian Ransom of the Canadian Wildlife Service. These last people, except for Dr. Sparling and Mr. Ransom were all invited because they are members of the Churchill River - Nelson River Study Board.

The response from the people on the Churchill River - Nelson River Study Board was very disappointing. My information to-date indicates that of them all, only Dr. Newbury is prepared to provide some information. I may be able to offer a partial explanation as to why the other members of the Study Board chose either not to reply to my letter or chose to reply in the negative. That explanation, in part, certainly for those members of the Study Board who are employees of the Provincial Government, might be, I think, clearly a consequence of action by the Minister, the Honourable Sidney Green. A letter was sent to me from the Minister, dated the 10th of January. In summary form, the Minister's letter covered these points: in the first case, the Churchill Diversion was now a matter of government policy and therefore only the Minister can speak or allow others in the Government's employ to speak on this issue. The second point was that the Government's decision is based on public documents. These documents are available to the public and I will indicate what those documents are in a moment. He spells them out in this letter. The third point was that he will not allow Civil Servants to present evidence or to make a presentation to this Council. The fourth point is that he wants it clearly understood that he did not wish the Council to advise him on this matter. He does not believe that the Council's advice will help him because the government is already aware of the potential environmental damage. They have been made aware, he asserts in his letter, from those public documents: The Crippen Report, January, 1970, The Underwood McLellan Report of February 1970, The Hydro Task Force Report of October 1970, and the McTaggart-Cowan Report of August 1972. Now that is an explanation at least with respect to those members of the Study Board who are in the Government's employ.

That being the case, the presentation today will consist of the following people in order of appearance: ... [see Table of Contents - eds].

2.0 MANITOBA HYDRO - Chris Goodwin

I'm here to represent Manitoba Hydro this morning. It is a pleasure to be here and to be given an opportunity to present facts about the Churchill River Diversion Project. I should emphasize at the start that I'm here to give you facts about the Diversion. You can draw your own conclusions from them. I would also emphasize that Manitoba Hydro has a license to proceed with this scheme. It is our duty to get on with that job and get it finished, and we certainly want constructive help such as is being given by the Study Board to alleviate the problems to the environment from this large project.

We can move onto the slides please. [Slides not available - eds.] This is a map of the watershed of the Nelson River in the darker colour and the Churchill River in the lighter colour. If you were looking from Hudson Bay, this would look rather like a funnel, the rivers pouring their water down into the lower Nelson area. The lower Nelson is the largest resource we have to produce electricity. Any other energy sources we must import. We have virtually no coal, oil or gas.

The Churchill River Diversion is a project to add about 40% more water to the Nelson River, from the drainage of the Churchill, shown in the upper part of the slide. It is the fourth component of this immense Nelson Project that was studied by agreement with the Federal and the Provincial Governments in 1963 and 1964. It is an integral part of that scheme. The other three components are the generating stations at the lower Nelson, the large transmission system to bring the power to the load centers of Manitoba, and regulation of Lake Winnipeg to provide efficient water flow in the north.

I think you may be suggesting today, such suggestions have been made in the past, that it's not necessary. We can do other things.

LET ME ASSURE YOU THAT THIS PROJECT IS REQUIRED IN 1975 TO GUARANTEE THE ELECTRIC ENERGY REQUIREMENTS OF MANITOBA. WE CANNOT DO ANYTHING ELSE NOW TO TRY AND POSTPONE IT. IN THE LONG TERM, THERE COULD BE ALTERNATIVES. IT MAY BE SUGGESTED HERE TODAY THAT WE DEVELOP THE CHURCHILL RIVER SEPARATELY OR THAT WE DEFER THE DIVERSION FOR TWENTY YEARS. I ASSURE YOU THAT WE HAVE LOOKED AT THESE MATTERS. THE ECONOMICS ARE SO UNFAVOURABLE THAT MANITOBA HYDRO COULD NOT CONSIDER THESE AS VIABLE ALTERNATIVES.

The plants on the Nelson River will cost in the order of \$500 million each. To go without Churchill Diversion, while not possible in 1980 in this concept, would require advancing those later plans by one, two and three years respectively. I think you can appreciate the effect of moving investments like that ahead on the economics of the

project. While not possible to present any alternatives for 1975, for 1976 to 1980 and beyond, it is technically possible to put in thermo-electric plants rather than hydro-electric, and to burn some fuel which we must import, probably coal, or in later years perhaps nuclear. I don't think that those are sensible alternatives. They are not economical. I don't believe they're in the interests of Manitoba from the environmental point of view.

We had looked at alternative diversions to the one for which we now have a license. We've looked at upstream diversions in Saskatchewan, the quantities of water which can be diverted further up the river are naturally smaller. The economics are not attractive and the diversion would probably not be in the interests of the people of Saskatchewan. They have their own plans for development of the Churchill River. This possibility does not fit into them. We have looked at diversions upstream from Southern Indian Lake.

Perhaps I should take a moment, Mr. Chairman, to identify some of this area. Most of you are familiar with it but perhaps some are not. The Churchill River enters Manitoba here, flows out at Missi Falls in the lower Churchill River and enters the Hudson Bay at Churchill. We had looked at diversion schemes into either the Rat River or the Burntwood River and we find them not economical. We had looked at diversions downstream from Missi Falls, across to the Nelson River and they are not feasible either.

The only feasible point of diversion is the point from South Bay to Isset Lake on the headwaters of the Rat River. South Bay is here, the community of South Indian here, Isset Lake here and these are the headwaters of the Rat River. This is the Burntwood River. They flow together at Split Lake and enter the lower part of the Nelson River. These are the Hyrdro projects on the lower Nelson.

We have concluded that while pumping water out of Southern Indian Lake is feasible technically, the economics are most unfavourable. The costs are approximately double the costs of a gravity diversion, and the benefits to the environment do not seem worthwhile. The water is still being diverted. The attraction may be that the people of the South Indian Lake community would appreciate it. We have concluded that a gravity diversion at an elevation of 827 feet above sea level, roughly ten feet above today's level, is the best way of doing the diversion, taking into account the resource losses and damages which are incurred and weighing these against the power transformed.

I have here some figures on the average water flows in the Churchill River. The average flow at Missi Falls is 33,500 and the diversion average of 25,000 of a maximum of 30,000. It still leaves an average of 8,500 C.F.S. By the time this reaches the port of Churchill, that figure is 13,500 C.F.S. This is many times the flow in the Red River today. It is a substantial river flow. There can be no concern about a water supply for the people of Churchill. There are positive benefits here in the diminished fresh water supply into the harbour because of icing problems. This is a side effect benefit.

There's concern that the lower Churchill River will have diminished flows and the ecology of that area will be changed. I think one of the important amelioration matters that we must take care of is a strong spring freshet to be released into the Churchill River to sweep the ice down that river channel each spring in the way it is released today. This is most necessary to clean up the old growth, allow new growth along the banks to come up for the young geese which will be growing up there each summer. The control works will allow that quite adequately.

The larger river flows in the Rat River basin will cause flooding, and as far as Notigi, this will be part of the reservoir. Below Notigi, past the community at Nelson House, and past the community at Thompson, there will be substantial river flows. Our investigations of the river channel itself show that this is quite feasible. The river flows at Thompson will be larger than recorded flood flows but the period of record is very short. We find them substantially less than the apparent floods of the past years. From what records there are, we reconstructed floods in the Thompson area and find them substantially above the flows which will be diverted through there.

I've stated earlier that the diversion would require raising Southern Indian Lake. The level is approximately ten feet above the present level. As for the community, I know this is a matter of great concern. We feel that no person's home need be moved but obviously fish camps, docks, some warehouses and other buildings will be moved or reconstructed. I want to assure everybody that Manitoba Hydro accepts responsibility for work like this.

Upstream, to Granville Falls, the levels of Granville Lake will not be higher than normal because of this project. The community of Pickerel Narrows [near Granville Lake - eds.] will not be affected. The water will back up to Leaf Rapids.

This is just an illustration to allow me to talk about fishing. It happens to be taken at Kelsey Generating Station. One of our employees has got a big one. Fishing is undoubtedly going to be affected in the area of Southern Indian Lake. There will be a period of stabilization. During that period, Manitoba Hydro must accept the responsibility of supplementing the income of those affected by that change in the fishing. We believe that fishing will re-establish successfully. We are awaiting recommendations from the Study Board as to what we must do to hasten that process.

This might just be the moment to brag. Manitoba Hydro is probably the largest employer and certainly one of the largest employers of northern residents and native people in the north of this Province. In order to mitigate the effects of Churchill Diversion on the environment, substantial clearing is going to be needed. It is our intention to clear the immediate areas before construction begins. As you know, this project was delayed for some years, and no work has been done on this. It is required to be completed by 1975. We don't think the manpower is available to do all the clearing that might be desirable. Accordingly, we are investigating means of underwater cutting of trees so we can clean up other areas as required. This is going to create a substantial number of jobs, not just in the next three years of construction clearing, but in long-term reservoir management program, for keeping areas of the lake clear so fishing can continue successfully and to take care of tourist requirements. It will be necessary if we are going to use the potential of Southern Indian Lake for recreation in some future, maybe twenty or more years in the future.

I'll just point out on the map where these areas of immediate clearing will be. Firstly, around the community of South Indian Lake, clearing will proceed as soon as we can get the arrangements made. Around South Bay, our construction requirements are in this area, particularly at Notigi where the highway crosses the river. This is the highway from Thompson to Lynn Lake. We were required to clear back to provide an acceptable shore line. Where the highway crosses again at Leaf Rapids on the way to Lynn Lake we will clear down to the mouth of Southern Indian to ensure that people can get their boats in there and enjoy that area. In the area of Missi Falls, where the project control will be, there will be clearing also, although we would expect that very

few tourists will go there as there will not be a road. There will be a road from Leaf Rapids to South Bay on Southern Indian Lake. There will be three access points to this reservoir. This presumably will result in better access for the people of the community. Another area of clearing will be spawning beds for fish in the future. That leads into the next fact that I want to present.

Wildlife and fisheries people are always concerned about drawdown of lakes. In its natural state, Southern Indian Lake drops through the winter between a half a foot and four feet. With diversion, it will be a maximum of two feet, according to our license, generally between one and two feet. The fisheries people have assured us that this is quite adequate for spawning beds, for the muskrat and obviously for the beaver. There should be no concern about the safety of the ice in general areas of the lake.

The costs of this work, which are substantial, do represent in a very large degree money spent in Manitoba, creating jobs and employment for Manitobans. Almost no equipment at all need come from outside Manitoba. Certainly all construction materials and workforces will be Manitoban. The costs at Missi Falls to control the outlet of Southern Indian Lake, including provision to let through any flows that are required in the Churchill River from spring freshets to minimum winter discharges are \$38 million. A channel to take the water from Southern Indian Lake to the headwaters of the Rat River will cost \$20 million. A control at Notigi on the Rat River to hold back the diversion waters, to release a maximum of 30,000 C.F.S., and to naturally cut that back at times when there would be a flood on the Rat River, or times when it was not required in the generating stations on the Nelson River -- [\$18 million presumed so as to total \$87 million - eds.]. Eleven million dollars is required to clearing of timber as I've described earlier. That totals \$87 million for construction works. The next item is future improvement works. A sum of \$13 million is being set aside to undertake any future clearing work that is required on all the various resource damage mitigation measures that are going to be needed. Other work required is:

- moving of water intakes, for instance at Churchill.
- weirs on the lower Churchill River where they can keep up the level on some of the outlet lakes associated with Missi Falls.
- work around Thompson - moving of docks.
- work at Southern Indian Lake. The setting up of this reservoir management program.
- continuing underwater cutting of trees and clearing of the reservoir.
- the final item, \$9 million, is money that's already spent in the last 5 to 10 years on studies, exploration, mapping, surveying, etc.

The total then is \$109 million. The worth of it over its life is in the order of a billion dollars.

Use of electricity in Manitoba is most important. We don't believe it is used frivolously. Two-thirds of it is used in industrial and commercial applications. This means jobs and the prosperity that we in Manitoba enjoy. It means our standard of life. About a third is used in residences, hot water, cooking, refrigeration, lighting, and many, many things that we take for granted.

Mr. Chairman, gentlemen, thank you for your attention. I have presented what I believe are facts that may be of interest and use to you in your deliberations this afternoon. Thank you.

DISCUSSION

CHAIRMAN: Thank you Mr. Goodwin. The procedure that will follow is that any questions that you have to direct to Mr. Goodwin or other officials would come through the Chair. I will allow about ten to fifteen minutes.

MR. DON McMASTER: I feel that the development of the Churchill River and Nelson River basins is justified to meet an exponential curve, a power demand. Is this not correct?

MR. GOODWIN: It's been our experience that power demand is rising at a compound rate of around 7%, or lately, higher. Part of this, understand, is because electricity is displacing other fuels. The overall increase in energy requirements for mankind generally, and Manitoba as well, is about 5% per year, but the renewable resources such as hydro, are taking over from the non-renewable, gas, oil, etc.

MR. McMASTER: I understand that, Mr. Goodwin. The thing that confuses me is what we do when you meet the curve past 1980. It seems that there is no possible way, mathematically, to meet that power demand curve past 1980. The exponential curve rises at such an extreme rate that I see no way that you can meet this curve. I'm not an engineer but I am a mathematics teacher. It would seem logical that somewhere along the way, before you reach 1980, Manitoba Hydro will have to make plans to break that curve. If you cannot meet it, it must be broken. I'd like to ask you what plans Manitoba Hydro has to meet this curve, seeing you plan to meet it at 1980 with this development. How do you manage to meet it later on or how do you plan to break the curve before 1980 or at 1980 or after 1980?

MR. GOODWIN: That is a much bigger question than Manitoba Hydro can or should be involved with. Manitoba Hydro's job is to meet the requirements of electricity for people of Manitoba with no concern of where you buy your oil or your gas, but to meet what you demand in the way of electric services. I see no problem in meeting those demands in 1980, 1990 or future years. There are far bigger electric power systems than ours. There are countries and provinces in Canada having far bigger power stations than we have. If that electric energy is required, it can be provided. If, as a matter of policy, the people of Manitoba or the people of the world decide that we are using energy wastefully and want to cut it back, that is a policy decision that must be made, I think, by a government. It certainly must not be made by Manitoba Hydro.

MR. McMASTER: I just have to say that, as a mathematician, I just can't accept that.

MR. HAROLD WALLACE: I've just read an article in the Reader's Digest this morning which says that the two greatest problems we face today is the population explosion and power. In referring to power, they say that the big problem with increasing power is thermal pollution. Now, I'm not an engineer, but I take it this hydro development creates no thermal pollution? Is there any other alternative that does not create thermal pollution. I'm thinking of the future.

MR. GOODWIN: Certainly Hydro does not create thermal pollution. I'm not certain that thermal pollution, the heating of water used for cooling fossil-burning thermal plants, is, or could be, a problem in Manitoba. A little bit of extra warmth would not hurt anything. We can use that heat which in Florida might be regarded as waste heat and a problem to get rid of, for some form of heating. Even if you put it in a pond and grow fish, you're achieving something, something useful in Manitoba. I don't believe that this is going to be a significant problem in Manitoba. Research in Manitoba, throughout North America and the world as a whole, is going ahead to try and get around this problem.

MR. J. R. FERISON: Mr. Goodwin mentioned that the net flow of the Churchill would be 13.5 thousand cubic feet after the diversion. He also mentioned that the Province of Saskatchewan had plans for the Churchill. I presume, and I think the Council should be re-assured, that the plans of the Province of Manitoba are dovetailed with the plans of the Province of Saskatchewan.

MR. GOODWIN: I can assure you that I did meet with representatives of Saskatchewan Power Corporation last month. We were discussing the general idea of plans for the Churchill River. They have nothing definite at present. May I correct an impression that perhaps you've left with others. The flows I quoted of 33,500 C.F.S. normal out-flow from Missi Falls is in the state of nature. It will be less. It will be about a quarter of that on average under diversion conditions. I might elaborate and say that certainly that is not drying up the river.

MRS. CHMARA: Have you met with Alberta yet?

MR. GOODWIN: We do have plans to meet with Saskatchewan and Alberta jointly. Generally speaking, an electric utility such as Manitoba Hydro keeps in close touch with the neighbouring utilities, but not those further afield. I have very slight contact with Hydro Quebec, for instance, and general contact with the utilities in Alberta and the Government Energy Board in Alberta. We know who they are but we are a long way apart.

MRS. CHMARA: When was the last time you met with Alberta and Saskatchewan?

MR. GOODWIN: We have a regular planning committee with the Saskatchewan electric people, and we met last month. I was talking to several of the Alberta people during the past year, but I have not had any formal meeting with them.

MRS. CHMARA: How long have you known about this diversion?

MR. GOODWIN: I don't know how long ago it was first suggested. It has been studied, in depth, following Federal-Provincial agreements in 1963 and 1964 as part of the Nelson River investigation. I think that was the first substantial investigation of this diversion.

MR. HENTLEFF: You mentioned that the studies have been made in depth. A reading of the McTaggart-Cowan Report in 1972 indicates very specifically that they were tremendously handicapped in their evaluation as to what type of diversion to suggest because they didn't have the information available. They further stated no such project should ever have occurred without these studies first having been made, and

went on to say that such a project would never be tolerated in the Province of Ontario. Could you please comment on those statements and how Hydro considered those statements in that report? In other words, what is not good for Ontario is obviously good enough for Manitoba.

MR. GOODWIN: I hesitate ever to allow an engineer to debate with a lawyer. The terms of reference of that Committee were to take a quick look at the clearing plans which have been suggested for Southern Indian Lake and the reservoir. They spent one afternoon at Southern Indian and about two days in Winnipeg talking with people knowledgeable about the area. This was intended to be a quick appreciation by disinterested parties -- one from Vancouver, one from Toronto, one from Ottawa, to take a quick look at the matter and to report quickly. It wasn't even intended, I think, that their report should be written, or that if it was, that it would cover no more than two pages. They did mention that a project like this in Ontario would have required complete clearing of every tree. I don't think that would be a wise use of Manitoba money and effort. I think trees must be cleared where people are going to be, or where it is necessary to clear for wildlife, fisheries and other reasons. I think you have another point which I disagreed with.

MR. HENTELLEFF: I'm rather surprised then that the Honourable Sidney Green, in his letter to Mr. Arenson would, in fact, point to this McTaggart-Cowan report which you discount so readily as being one upon which he depends in having made his decision. My next question, however, is could you provide me with the details of the studies that have taken place with respect to the whole Churchill River between Missi Falls and the Hudson Bay, and what effect the diversion of some 80% of the water from that regular flow will have on that whole 250 miles of the river.

MR. GOODWIN: Yes. Perhaps, you indicate that I misinterpreted the McTaggart-Cowan Report. What I was trying to stress is that they were brought in to take a quick overview of the clearing requirements, not an overview of the project as a whole. With regard to the lower Churchill studies beginning in 1967, I think they concentrated on, earlier, on matters such as the water supply to Churchill, the effect on the harbour. Later studies have picked out the effect on flows and the Study Board is undertaking more detailed studies on effect on wildlife and on the region as a whole.

DR. ALEX FEDORUK: I find your clearing proposals paradoxical. Your rationale, or part of the rationale for clearing, has been to accommodate fishing. I note on your map that the only clearing that is to take place within the confines of the lake is around the community of South Indian Lake itself. Now, there's very little fishing done within the immediate proximity of the community. Commercial fishing in the past is in areas beyond the community. I find it difficult to comprehend that with no clearing to accommodate commercial fishing, how commercial fishing can be adequately carried on. In other words, the areas to be flooded will be reasonably shallow and could become areas where fish are apt to congregate. I can't, in my mind, see how a commercial fishery can be sustained when nets have to be set amidst a flooded forest.

MR. GOODWIN: Can we have the question repeated, please?

DR. FEDORUK: There appears to be no provision to accommodate commercial fishing within the lake. The only site for clearing you have identified, which one could allege, or alludes to the fact that it could accommodate commercial fishing, is around the townsite. The only thing this will accommodate is the traffic of boats back and forth from the community, but no sites will be cleared to accommodate commercial fishing within the lake.

CHAIRMAN: Can you ask the question now? You have just made a statement now. What was the question?

DR. FEDORUK: I find this paradoxical that the rationale that has been extended by Mr. Goodwin for clearing has been to accommodate things like fishing.

MR. GOODWIN: Perhaps I put the clearing proposals unclearly. They are basically for aesthetics, for safety on the lake, to preserve spawning beds, and to allow continuance of navigation, in other words, the boats can move around. The question of whether you will want to go into ten feet or less of water to fish, I wouldn't presume to answer.

MR. JOHN SCHNEIDER: You said you proposed to supplement funds to people who aren't working. What do you propose for them to do with their time? When they can't fish, do they just sit at home and take the welfare cheques, and not do anything?

MR. GOODWIN: I think I said we were quite sure the fishing industry will have a set-back but it will re-establish. During that time, there will be a considerable amount of work in reservoir management. This requires people and boats, the same basics that one needs for fishing on Southern Indian Lake, a good knowledge of the lake and the ability to handle a boat on that particular lake.

MR. BOB DYCETT: I'm not very much of a talker, but Mr. Goodwin and some other Hydro men have said that they will clear land and make spawning beds for the whitefish if they go ahead with this diversion. Are you or the Honourable Sidney Green going to go up there and tell those whitefish, "We moved your spawning bed over here? We spoiled the other one. You go over here and spawn here from now on." Are they going to do that? How are the fish going to know they've built a spawning bed over here?

MR. GOODWIN: Spawning beds are in particular areas. The Study Board is spending \$300,000 to investigate the lake, to learn something about it. We intend to get from them some useful information on where spawning beds will reform so we can get those areas cleared up properly to allow the fish to spawn where they want.

MR. DYCETT: Mr. Schreyer told us last summer the Provincial Government donated \$100,000 and the Federal Government donated another \$100,000 to have studies made in that area. That was two years ago. They started these studies last May. Why did they take so long to do that? Those studies are not finished. They haven't got the results. Why doesn't Hydro wait until they get the results before they make the decision to flood that lake?

MR. GOODWIN: I can answer the second one. Manitoba Hydro does not have time to wait until studies are completed. Our job is to produce electricity.

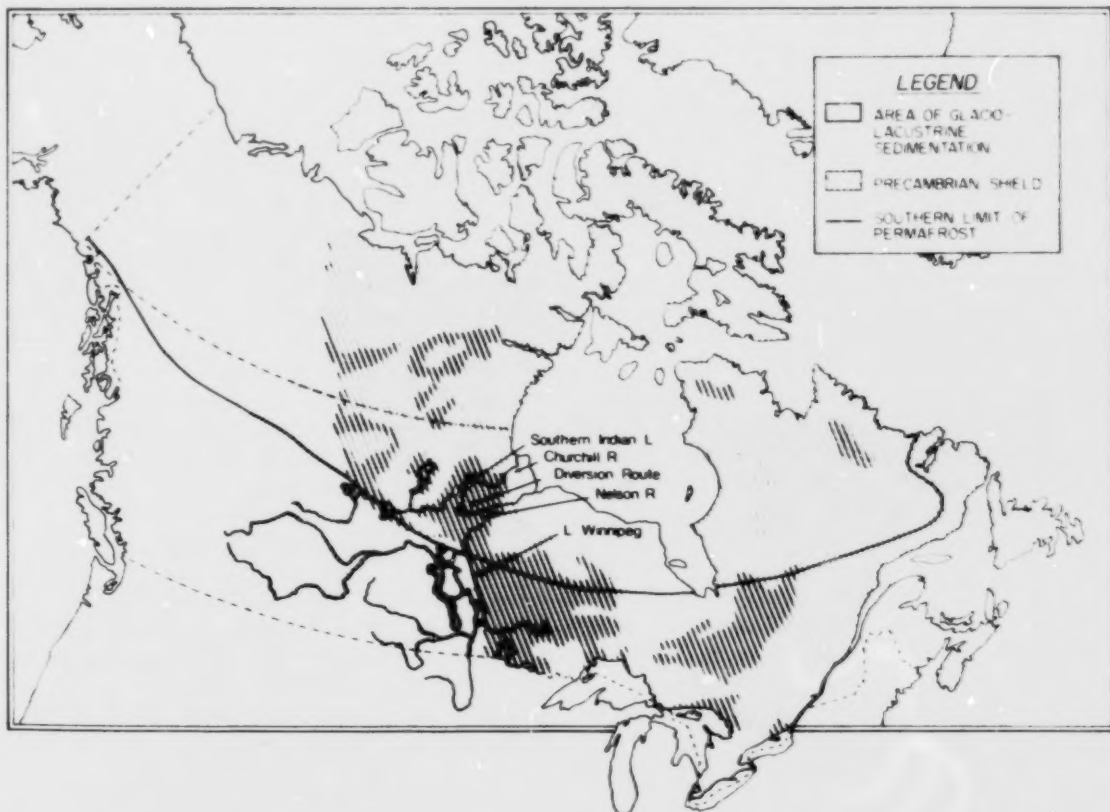
MR. ARENSEN: Mr. Dycett, I'm afraid we have to move onto the next presentation.

MR. DYCETT: No, I'm going to say a few more words.

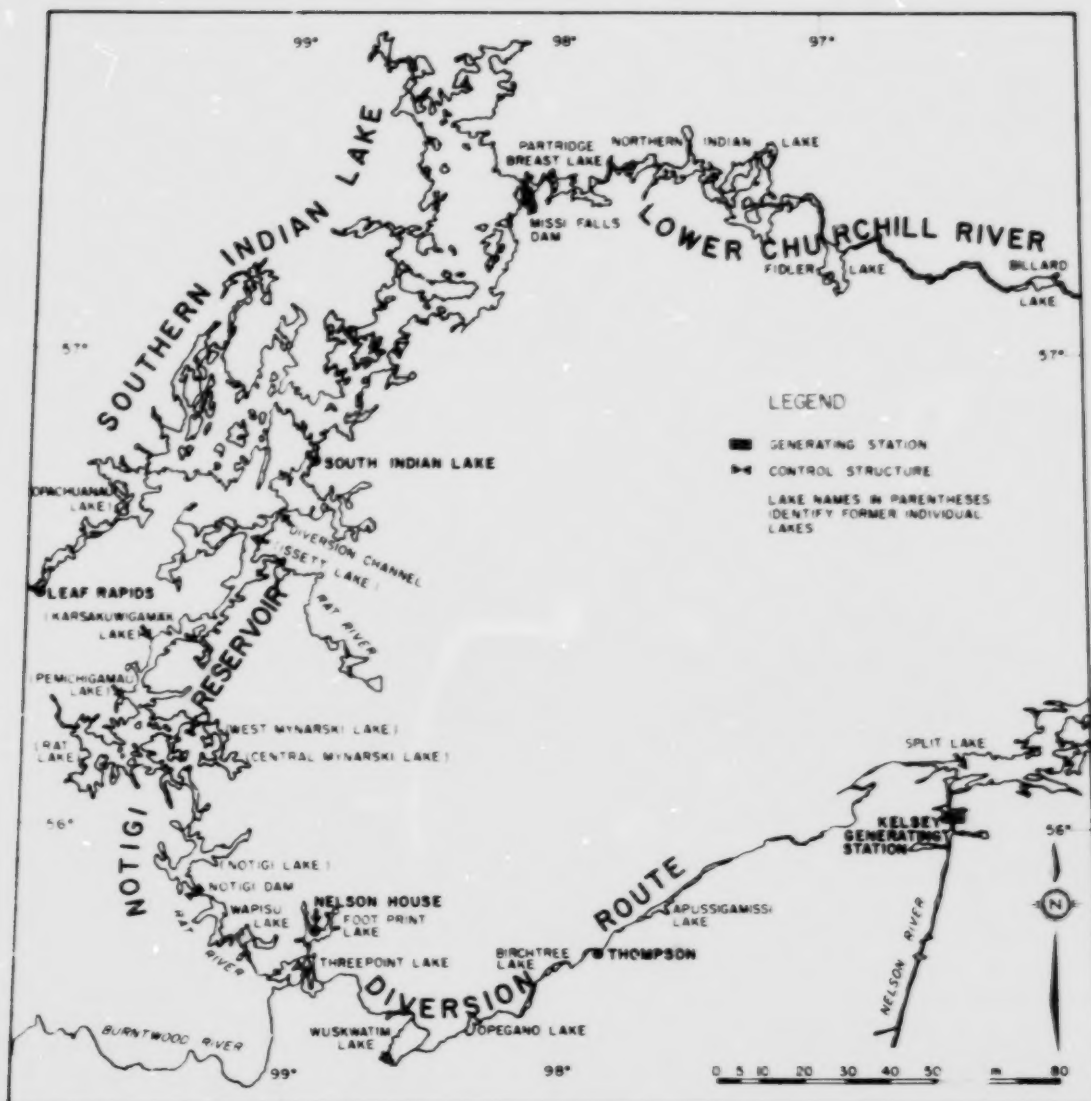
MR. ARENSEN: Okay.

MR. DYCETT: I think the reason that Hydro is in such a rush to do that is they are afraid to hear the results of the study because they are afraid the study will show that they're in the wrong.

MR. ARENSEN: Later on in the day your committee will have full opportunity to present its arguments and its ideas. I'd like to thank Mr. Goodwin and now call on Professor Dale Gibson who will speak on behalf of the "Friends of the Churchill."



III. 1 Geographical setting of Southern Indian Lake and the Churchill River Diversion.



III. 2 Lakes and communities affected by the Churchill River diversion.

3.0 FRIENDS OF THE CHURCHILL - Dale Gibson

Mr. Chairman, I'm a Law Professor from the University of Manitoba. I've been asked to introduce a group of people, a rather loose alliance of individuals who have professional and other interests in Southern Indian Lake, who collectively call themselves "Friends of the Churchill." I would ask, Mr. Chairman, if it's satisfactory to you and the Council, that questions be postponed until all presentations have been made because there is a kind of a cohesiveness to them.

I would introduce to begin with, only a portion of the group, three individuals, all of whom are engineers, who will be speaking about particular aspects of this diversion problem. Other aspects will come out in a later presentation. The first of these presentations is by Dr. Edward Kuiper, a Professor of Hydraulic Engineering at the University of Manitoba. I have introduced him on previous occasions as one of Manitoba's greatest products. Dr. Kuiper has been at the University for some years but he's probably as well known just about everywhere else as he is in Manitoba. He has consulted for literally dozens of governments all over the world on hydro projects and other water use projects. He brings to this particular topic an extremely broad international reputation and expertise. He's the author of two books. One could go on and on and on about his technical qualifications. He has been intimately involved with the Churchill River Diversion for many years, much longer than most of the rest of us, and he wishes to bring both a personal and a professional view about the Churchill River Diversion to you.

Mr. Chairman, we felt that this new idea of a tie-line to Saskatchewan to tide Manitoba over for at least the next few years was such an exciting new input to the whole problem that it ought to be explored in more depth. For that reason, the next two speakers are going to elaborate on this particular proposal of a tie-line to Saskatchewan to take away the element of emergency Hydro has been telling us exists. The next speaker is another Kuiper. There seems to be a Kuiper dynasty developing in the engineering/economics field. John Kuiper is Ed's son. He has just acquired a Ph.D. Degree from Stanford University in Engineering/Economics. He has been, though still a very young man, involved in the practical aspect of hydro planning, both here in Manitoba and, of all places, in Brazil. He has done a more detailed study of this tie-line proposal and is going to elaborate on that for you.

Dr. Allen Lansdown is the Head of the Department of Civil Engineering at the University of Manitoba. Because this idea of a tie-line also struck him as being very exciting, Dr. Lansdown has done some independent studies of its feasibility and he wants to talk to you about that. He also wants to discuss some general matters relating to the Churchill Diversion.

The next member of the "Friends of the Churchill" to speak to you, is the one that I had hoped would speak to you first, Dr. R. W. Newbury from the Department of Civil Engineering at the University. Dr. Newbury is an expert -- I guess, Western Canada's prime expert in river behaviour. He has been studying northern rivers, in general, for some time, and is particularly engaged now in a study of the effects of the Churchill River Diversion, under a Federal-Provincial Study Agreement. The Study

is far from complete, and indeed, this is one of the things that we're objecting to, going ahead before the study is complete, but even at the present stage of studies, he's able to present to you a rather dismal view of what the physical effects of the Churchill River Diversion will be.

The next speaker is Dr. Ruben Simkin from the Economics Department of the University of Manitoba. Economics is always raised as the objective to the various environmental arguments that have been made by groups like ours. The statement is frequently made that we realize that we're doing damage to the environment, but it's simply economically unavoidable. Suspecting that these arguments are not as sound as they can be made to sound publically, we have consulted several economists. We find that indeed there's a good deal to be said for the environmental side of the picture, as well. There are immediately, in the "Friends of the Churchill" group, two economists who have been working on this problem for us. One is Dr. Simkin, from whom you'll hear in a moment, and the other is Dr. Michael Lamb, who is an expert in resource economics. Unfortunately, Michael was not able to be here.

Let me just very, very briefly tell you the sort of things that Michael Lamb has been working on before I introduce Ruben Simkin to you. He has looked at the economic calculations that have been made about wildlife and economic losses, by Manitoba Hydro, the Government, and their consultants, to see how valid those assessments of environmental and recreational loss are. He's come to, what we regard, as very striking conclusions that the figures are based upon techniques of calculation which would not be accepted by an impartial group of resource economists. They're based on fallacious economic techniques. The conclusions that can be drawn from even those figures, if you extend them over a reasonable length of time, bring you to the point where the resource and particularly recreational losses could well exceed the short run economic benefits that are being put forward by Manitoba Hydro. Now I can't go into this. I'm not qualified to do so, but you ought to know that this kind of calculation has been done. The economists that have spoken to us, make it clear that the economic argument is not all on the hydro side. Very much of it is on the environmentalist side as well. Well, I've told you what Michael Lamb hopefully would have said to you in a much more convincing way.

The bulk of the members of the "Friends of the Churchill" are still, believe it or not, optimistic that the Manitoba Government can be persuaded not to go ahead with the Churchill Diversion, at least just yet. But like any group of friends, there are, among us, varying degrees of optimism and pessimism. The next, indeed, the final speaker in the group, is one who is less optimistic than most of the rest of us. He's Dr. Cass Booy, an Engineering Professor, who I'm sure you know well through the newspapers already. It's Dr. Booy's view that probably the Government cannot be stopped in its decision to go ahead with the Diversion. He, therefore, wants to concentrate on the issue that first became public on Southern Indian Lake, and tell you about a proposal that may, at the very, very least, save Southern Indian Lake. Cass Booy, as you probably know, besides being an Engineering Professor, is a member of the Clean Environment Commission and was, until some unhappy differences arose not very long ago, Chairman of the Manitoba Water Commission.

3.1 EDWARD KUIPER

I find myself in a somewhat peculiar position. Some fifteen years ago, I happened to be one of the first engineers who advocated the Churchill River Diversion. Now you will find me pleading against it. What happened in between? In 1954, as Hydraulic Engineer with the Federal Government, I surveyed the actual overflow of the Churchill River into the Nelson-Saskatchewan basin, a most peculiar geographic phenomenon that you hardly find anywhere else in the world. We believed at that time, therefore, it would be a relatively simple engineering scheme to divert the one river into the other.

In 1958, as Chief Engineer of the Lakes Board, having the responsibility to look into Lake Winnipeg Regulation and the Nelson River development, we asked ourselves, "Is this Churchill River Diversion not of great benefit to the Nelson River"? In 1961-62, I went as a consultant to Manitoba Hydro with Mr. Len Bateman (then Chief of Planning) to Mr. Donald M. Stephens, who was then Chairman, and pleaded with him to look into this possibility of the Churchill River Diversion, because it seemed an eminently logical and economic energy solution. In '64 and '65, still as a consultant to Manitoba Hydro, I would plead for a level at Southern Indian Lake of 880 instead of 870, because it would give us more storage capacity. As a power engineer, you just love storage capacity.

But then in 1966, the University of Manitoba was asked by the Province to look into the economic and environmental implications of the Churchill Diversion. As a member of that inter-disciplinary team, we began to ask more than just power questions. "What will this raising of 30 or 40 feet of Southern Indian Lake do"? We tried to visualize the thousands of inundated acres, the fringe of dead trees around the lake, the loss of livelihood of the Indians. The more we tried to visualize, the more we were horrified by what we saw. We asked, "Is this really necessary"? and the answer was, "No", because it was soon realized that you could divert the Churchill River without having to flood Southern Indian Lake.

I will not dwell on all the alternatives. I will mention just one possibility, namely the diversion of means of a pumping scheme. Let me take half a minute to explain this. Here you see an outline of Southern Indian Lake. The proposed development was to build a dam here, and by doing so to raise the level of the lake by some 30 or 40 feet until it would flow at gravity, by itself, in a southerly direction into the Rat and Burntwood system, and then into the Nelson River. You can perform the same diversion not by raising the lake but by building a pumping station to slurp the water out of the lake or push it over the rim of the lake and then let it run down. This pumping station would be more costly than the gravity diversion. At that time, we estimated in the order of \$15 to \$20 or perhaps \$30 million more dollars. The great advantage would be that you would leave the lake within its natural range. The damage to the environment would be practically nil. From a viewpoint of power production on the Nelson River, this pumping scheme is equally as useful as the gravity diversion. At the end of the inter-disciplinary study, I was personally convinced that Southern Indian Lake should not be flooded.

A year later, this very issue became a public issue. As you can remember, it was a very lively public issue in 1968 and 1969. In fact, it was part of the cause that the Progressive Conservative Government changed to the N.D.P. Government. After looking into the matter, Premier Schreyer announced that he would reject the proposed high level diversion. In the Legislative Assembly he gave a long speech. He spoke feelingly about our environment and how we had to preserve it. I'll quote his last words: "We owe it to the generations who will follow us to use our best knowledge and experience in order to avoid the kind of mistakes which our less well-informed predecessors made in years long past." We were all happy. We felt that this meant, in essence, no flooding of Southern Indian Lake.

In 1970, to my dismay and disbelief, Manitoba Hydro came forward with a proposal to divert the Churchill River, not by flooding the lake by 30 feet, but 10 feet. In the beginning, we were so surprised that we could hardly believe it, because personally I believe, as do most of my colleagues, that 10 feet of flooding of Southern Indian Lake will cause practically the same damage as 30 feet. Beaches are still inundated. There is still a fringe of dead trees around the lake. Whether the fringe is 1,000 feet wide as it was with 30 feet of flooding to 100 feet wide as it is with 10 feet of flooding, makes little difference. It looks horrible in both cases. You still have debris from all these dead trees that will foul up the fish nets. You still eliminate the spawning grounds so the Indians still lose their livelihood. We made our views known to the Premier. We were fully confident that Manitoba Hydro would not receive its license.

In the meantime, a re-thinking of the whole issue took place. In the beginning, everyone, including myself, took for granted that the concept of the Churchill Diversion was economically sound. We began to question this. As recently as two years ago, I would talk to students about northern power development, and say, "Well, we have to take the Churchill Diversion for granted, but let us find a diversion scheme that causes the least damage." When questioned or challenged about the necessity of the Diversion, I became less and less impressed with the economic advantages. I became more and more impressed with the tremendous amount of damage that would be done.

I have mentioned the damage that I visualized on Southern Indian Lake. In addition, we do significant ecological damage to the lower Churchill River, which, over periods, sometimes five to ten years in succession, will abruptly dry out. The flows divert into the Rat and Burntwood system, which now has a stream flow in the order of 2,000 C.F.S. and which in the future will have to swallow some 30,000 C.F.S. As a result, we can expect a significant amount of inundation and erosion of silts and vegetation. All this dumping will be flushed down and will be dumped in occasional lakes here and will be dumped in Split Lake. It will cause a tremendous amount of damage. Other speakers will dwell in more detail on this particular aspect.

This is taking place around the whole world. During the last five to ten years, we are becoming aware of the rapid environmental degradation that we are causing; that we engineers are causing. An awareness has evolved that we should not do this. We should not do this if we can avoid it.

WHILE EVERYONE IN THE WORLD IS CRYING OUT FOR THE PRESERVATION OF THE ENVIRONMENT, WE IN MANITOBA ARE ON THE VERGE OF CAUSING AN AMOUNT OF ENVIRONMENTAL DEGRADATION UNPARALLELED IN THE HISTORY OF WATER RESOURCES DEVELOPMENT ANYWHERE IN THE WORLD. THIS SOUNDS LIKE A TALL STATEMENT BUT I HAPPEN TO KNOW WHAT GOES ON IN THE WORLD IN THIS FIELD. THIS DAMAGE TO THE ENVIRONMENT, IN MY OPINION, RANKS AS ONE OF THE MAJOR ECOLOGICAL DISASTERS, IF YOU WANT TO CALL IT THAT WAY; ONE OF THE MAJOR ENVIRONMENTAL DEGRADATIONS THAT WE HAVE SEEN.

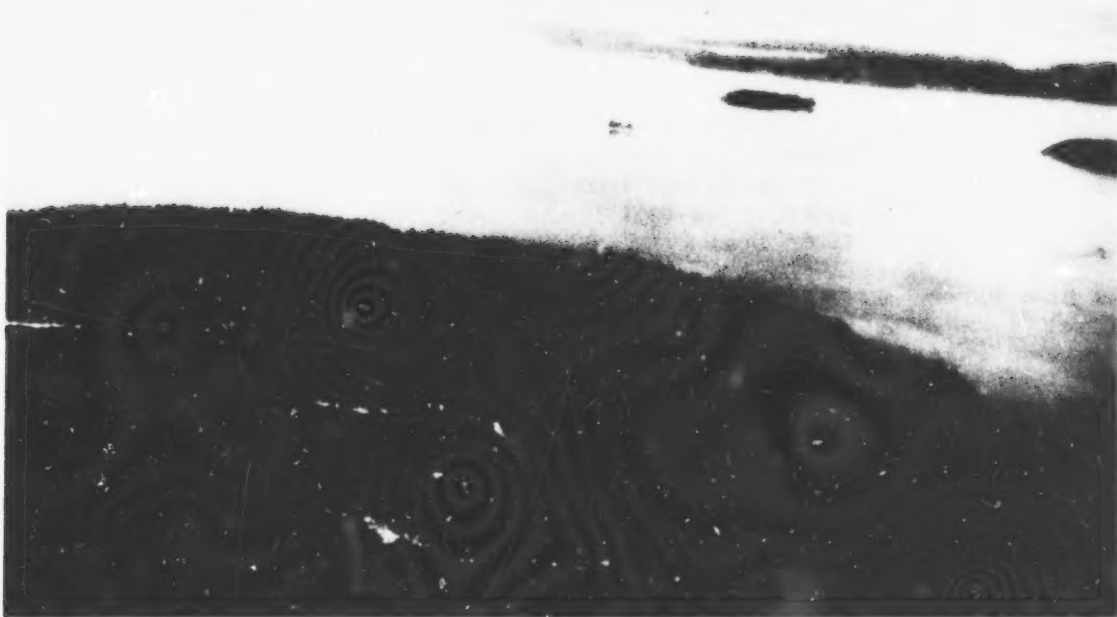
Now, you may say, "Well, alright, but it is so remote. It is somewhere in northern Manitoba. Nobody will ever see it." This argument is completely invalid. The means of transportation are increasing so rapidly nowadays that you will find people in all nooks and corners, particularly for purposes of recreation. It won't be very long before you'll find people all over Manitoba. Mr. Cass-Beggs, the former Chairman of Manitoba Hydro, in his report to the government in 1969, spoke of tens of thousands of visitors who can be expected in Southern Indian Lake. At the present time, our government is planning the city of Leaf Rapids, a new mining city, with for the first ten years perhaps, a population of 15,000 and thereafter perhaps more. They are planning that city now near Southern Indian Lake, the same lake where they propose to destroy the recreational potential.

I find it completely incomprehensible, Mr. Chairman, that Premier Schreyer, who spoke in 1969 so convincingly about the preservation of our environment, now would allow such spoilage to take place. We are not alone in these views. I know of no civilized country in the world where such a plan would be accepted. In fact, an Environmental Commission appointed by Manitoba Hydro itself, the McTaggart-Cowan Commission, as was mentioned ten minutes earlier, stated that this proposed flooding would be rejected in Ontario. I do not see why we in Manitoba should accept it if other Canadians would reject such a thing.

Mr. Judd Davis, Federal Minister of the Environment, enunciated a few years ago the following rules for Canadian water development:

1. Do not divert whole rivers from one river basin to the next. No ifs and buts. Just that one statement by itself. Do not divert whole rivers from one river basin to the next. This was stated by our own Minister of the Environment in Ottawa.
2. Do not sacrifice trees, fish, wildlife and other living things for the production of power unless it is absolutely necessary.

So the essence of the change in attitude worldwide, the essence of our thinking in Canada, is that we should stop the degradation of our environment if we possibly can. There is no doubt about the degradation of the environment caused by the Churchill Diversion. So, the question remains, "Is it absolutely necessary that the Churchill River be diverted?"



III. 3. Aerial view of Southern Indian Lake under natural conditions as they existed prior to the Hydro development. The Lake was approximately equal in size to Lake Manitoba but more closely resembled other Canadian Shield lakes such as Lake of the Woods or Rainy Lake.



III. 4. The self-sufficient South Indian Lake community as it existed prior to the Hydro development.

Let us quickly review the present plans, as they now stand. On this graph, you see on the horizontal scale "Time", 1970, 1980, 1990 and the year 2000, and on the vertical scale is the "Power Demand in Megawatts." At the present time, we are here. This black bar is the magnitude of the power system in southern Manitoba. This blue bar is the capacity of Kettle after full development. So, when that one is finished, that capacity will take us to the late seventies. By that time, it is proposed that the Churchill River be initiated, and shortly afterwards, the construction of Long Spruce will follow and Jenpeg. That will bring us up to here. That will carry us to the mid-eighties. From there on, we get in quick succession, the development of all the plants on the Nelson River. That will bring us to the mid 1990's. Then we will likely follow the development of nuclear power and conventional thermal power, all under the assumption of exponential growth over these three decades.

In power engineering, we are used to the concept of looking at the past, observing exponential growth and extrapolating that to the future. Whether that is right or not, we do not know. It's possible that in one or two decades the whole pattern of life may change, the whole economy may change, we may get a different outlook on resource availability, that this exponential curve will flatten out and become horizontal. But that is just speculation.

Now, suppose we do not divert the Churchill River. What would we do? Let us first assume that we postpone the Churchill River by some five years. That will bring us to the early 1980's. How could we do this? One of the needs at this moment is energy -- not so much capacity but energy. The Churchill River Diversion would give us only water, energy, not extra capacity.

There are other means to get this energy. One possibility is to construct a tie-line with the Province of Saskatchewan. The Province of Saskatchewan has a power system that is predominantly thermal. We have a power system that is predominantly hydro. From the view point of power engineering, you couldn't ask for a better combination than a thermal system with a hydro system, because the hydro capacity is cheap, when you have water, the energy is cheap, but you may have dry periods, then you cannot run all your plants at capacity. For that purpose, it is nice to have steam stations that will produce the energy. Now, we have assumed in some calculations that we recently made, that we would put the surplus thermal capacity of Saskatchewan (at night when their plants don't run) at our disposal for feeding in energy in our system if we need it, if dry years come along. We found that this was eminently useful. We found that a five year postponement of the Churchill Diversion was advantageous rather than disadvantageous. Following speakers will dwell upon this in more detail.

If we continue to have no diversion, there are two options. We could continue to co-operate with Saskatchewan and exchange energy, or we could do it on our own. In this case, we would have to build these plants at a somewhat lower capacity than otherwise. If we do that, then we would reach the limit of our capacity in the early nineties. We would have to go to nuclear capacity somewhat earlier. My point is that this sort of a development is eminently feasible. It can be done if we want to. The cost is, some feel, even a bit lower; others feel maybe somewhat higher, but of the same order of magnitude of this development.

Presently, we have power in Manitoba which ranks amongst the cheapest in the world. If we make it a little more costly because of a different scheme, it is still amongst the cheapest power in the world. So, if we repeat once more the principle that has emerged from the recent thinking, namely we should stop degrading our environment if we possibly can, then my conclusions of this analysis, Mr. Chairman, is that we should not degrade the environment and we can prevent it without upsetting our economy or our social structure in the least little bit. The Churchill River should not be diverted; in any event, it should be postponed by at least five years.

Thank you very much.

DISCUSSION

MR. GIBSON: Mr. Chairman, "The Friends of the Churchill" have two or three other presentations on other diversion aspect but Dr. Ed Kuiper has to leave now and will not be able to be back this afternoon, so I thought if there is a question or two that might be directed to him, this would be the time to do it.

MR. WALLACE: Two years ago I heard a great deal about water shortages in the United States and the plan was proposed to conduct water from the Northwest Territories and the Yukon, down through the Saskatchewan River and the Red River system into the central states. Now, are we faced with a water problem that perhaps is just as serious as the energy problem? Maybe diversion of the river's water down the Nelson should be the other way, in order to sell the water.

DR. KUIPER: To fully answer that question would open up a new conference. I will try to answer you in a few words. Ten years ago there was a lot of talk about exporting water from Canada to the United States. At our University we looked into the matter and I confess in those years we enthusiastically looked at these big water transfer plans. We thought they were just wonderful. I have explained to you how our thinking has changed, but one thing we found out in the studies was that it is completely uneconomical. It can physically be done but for economic reasons it is impractical. It would cost about \$35 per acre foot to bring water from northern Canada to the United States boundary, for which we could sell it to the United States. It would cost the United States another \$35 to bring it to its destination in irrigated fields. So by that time, one acre foot would cost \$70 and a farmer would need two or three acre feet to raise one crop of grain by irrigation. The farmer would be paying something like \$150 for water for which he would receive in gross income for his products \$30, \$40 or \$50. Economically it makes no sense.

Politically it makes no sense because more and more Canadians feel that we should retain our water. Once we send it across the boundary, there's no way of retrieving it, so we shouldn't do it.

From environmental aspects, more and more of us begin to fear that such large water diversion plans would so upset the ecology of our system and social interests that we shouldn't do it. So I think these are three valid reasons that we can discard water export.

CHAIRMAN: Is there any further questions you would like to direct to Dr. Kuiper?

MR. DON CRAIK: I sat through the hearing with great interest. One of the recurring questions that people ask who get involved in this problem is: Eventually does not a decision have to be made on whether renewable resources or non-renewable resources are first to be expended in the generation of power? I buy your argument entirely about the tie-in with Saskatchewan but I can't help but regard it as little more than an interim solution to an over-all problem. We still come back to the question of whether or not water power that can be developed economically and we have to acknowledge that Churchill power, from the economic point of view, is very good. But we have to come back to the basic question that gets raised after we've gone through all the micro-arguments that have been presented today. Don't we have to come to a quantitative evaluation of how much pollution we're going to allow in the burning of hydrocarbon fuels versus the pollution you're going to get from the diversion of rivers? Doesn't it really come down to making a judgement of what river and water courses you're going to allow the pollution on and those that you are going to declare as being inviolate from disturbance?

DR. KUIPER: I shall try to answer the question in full. In this alternative development plan, I have presumed that the Nelson River will be developed, which would bring us to the year 1990. I have presumed that only the Nelson River will be developed which will bring us to the year 1990. I am speculating that from an economic viewpoint, at that date, the development of nuclear energy will be less costly than the Churchill River development on its own. In the Churchill River, not by means of diversion, but in the Churchill River. Therefore, I have started in my graph by showing these red bars, the nuclear plants in early 1990. However, if by that time, twenty years down the road, we feel that the development of our renewable hydro resources is more important than the development of the non-renewable nuclear and coal resources, there's no reason why in 1990 we cannot develop the Churchill River on its own. Now, the total development of the Nelson on its own, and the Churchill on its own, without a diversion, would give us a total capacity of about 8,000 megawatt which is 1,000 megawatt more than this proposed diversion. So, by eliminating the diversion, we by no means eliminate our hydro potential. If any, it would be higher.

3.2 JOHN KUIPER

I'd like to examine the economics of the Churchill River Diversion and some possible alternatives involving tie-lines because apparently it will be difficult to stop or change the diversion unless it can be demonstrated that feasible and economical alternatives are available. Several alternatives are available to the Churchill River Diversion proposed recently by Manitoba Hydro. These include no diversion at all, different types of diversions involving various degrees of flooding and clearing of the diversion sites, including a low-level pumping diversion which would avoid flooding the lake, and finally, different schedules for the installation of the diversion. Many of these alternatives are rather expensive and probably uneconomical.

This study examines a limited number of alternatives involving transmission tie-lines with the power system of Saskatchewan. Such a tie-line appears very economical and will enable the diversion to be postponed by at least five years. Other alternatives, such as a low-level pumping diversion may also be economical but not examined here because they involve engineering problems which are beyond the scope of this Planning Study.

Several alternative sequences of power development involving the Churchill River Diversion and transmission tie-lines have been examined. The first is similar to the sequence proposed by Manitoba Hydro. This sequence is the Churchill River Diversion scheduled at the end of 1976 with no import or exchange of energy allowed.

The alternative is to postpone the Churchill River Diversion and use a tie-line with Saskatchewan instead. This would enable Manitoba Hydro to import off-peak thermal energy from Saskatchewan whenever required and export our own surplus hydro energy whenever available. Such a tie-line already exists in the form of two 140 megawatt interconnections, but are used only at the present time for emergency power failure and for a limited energy export by Manitoba. No serious studies of energy exchanges with Saskatchewan involving the importing to Manitoba of off-peak thermal energy have been made.

Such an energy exchange would be quite feasible because Saskatchewan has a large amount of thermal capacity. Presently this is about 850 megawatts thermal and 480 megawatts hydro. In the near future, mostly thermal capacity will be added to this power system. There is adequate fuel to operate these thermal plants. It would be quite feasible for Saskatchewan to export the off-peak thermal energy to Manitoba when needed. If there is surplus hydro energy in Manitoba, this could be exported to Saskatchewan replacing off-peak thermal energy and reducing fuel costs.

The third sequence examined here involved an inter-tie with Saskatchewan and an early Churchill River Diversion. Its purpose is to examine the possible benefits of an early Churchill River Diversion for power export, even though it is not clear whether such export benefits are considered in Manitoba Hydro's proposed sequence of developments.

The feasibility, the operating characteristics, and the costs of the alternative sequences, were examined with the computer simulation program which simulated the approximate operation of each alternative for a large number of stream flow conditions. The results are presented in this table [not shown - eds.]. I've summarized these alternative sequences. The first sequence, labelled "A", is the sequence apparently proposed by Manitoba Hydro. It involves no major energy exchanges. The Churchill River Diversion is scheduled for 1976 and the Long Spruce Power Plant will be added in 1981. The cost is calculated to be \$442.8 million. This is the sum of the discount of annual values.

The second sequence, "B", involves a tie-line with an energy exchange and a later Churchill River Diversion. Sequence "C" involves a tie-line with an energy exchange and an early Churchill River Diversion which allows the diversion energy to be exported. For both "B" and "C", I examined a 200 and a 400 megawatt tie-line. The cost of sequence "B" with the 200 megawatt tie-line and the late Churchill River Diversion is \$416.2 million. This is \$26 million cheaper than the cost of an early diversion and no energy exchange. Sequence "B" also involving a larger tie-line is only about \$2 million cheaper.

Sequence "C" involving an early diversion and an energy exchange which allows the power produced by the diversion to be exported is still more expensive than Sequence "B". Its cost is \$428.5 million, which is still \$12 million higher. When a 400 megawatt tie-line is used, the cost is reduced somewhat to \$424 million, but this is still quite a bit more expensive.

Therefore, these computer studies indicate that Sequence "B" involving an energy exchange with Saskatchewan, and postponement of the Churchill River Diversion until 1981, is much cheaper than any other sequence examined here. Sequence "B" is \$26 million less expensive than Sequence "A" proposed by Manitoba Hydro which involves an early Churchill River Diversion and no energy exchange. Sequence "B" is also \$12 million dollars less expensive than Sequence "C" which involves an early Churchill River Diversion and an energy exchange which allows the surplus energy produced by the Churchill River Diversion to be exported as a profit. For both sequences, "B" and "C", tie-line exchanges of 200 and 400 megawatts average were considered but the increase in the tie-line capacity did not have a very significant effect on relative costs.

The low cost of sequence "B" is because the annual capital cost of the \$100,000,000 Churchill River Diversion can be avoided for a period of five years. During this period, the power benefits of the diversion are also lost, but they are much smaller than the diversion cost. After 1981, however, the Long Spruce Hydro Plant is added to this system. The benefits of the Churchill River Diversion then will be increased to the point that it becomes economical. It can be concluded, therefore, that it is not economical to start with the construction of the Churchill River Diversion now. It is cheaper to postpone it until 1981, and to use an energy exchange with Saskatchewan to provide the necessary energy in the meantime.

The results of the computer studies have to be accepted on good faith. However, it is likely that some people will question the validity of such a computer program. Therefore, a simplified and rather approximate economic study of the Churchill River Diversion has also been made here, in order to provide an independent confirmation of the computer studies. This study compares the average benefits of the diversion against the average costs of the diversion.

The benefits of the diversion can be calculated. The capacity of the proposed diversion is 30,000 C.F.S. Since it cannot always operate at its maximum capacity, the average stream flow diverted will be about 25,000 C.F.S. The developed head down-stream of the diversion is 100 feet at the Kettle Power Plant. The energy produced by this diversion can then be calculated with the power equation. This results in an energy of 185 megawatts, which is 185,000 kilowatts. However, all this energy cannot always be produced because sometimes the stream flow at Kettle may be in excess of turbine capacity. Then some of the diverted water must be spilled. When the energy can be produced, it is not always possible to use or sell all of it because there may already be too much surplus hydro energy in the power system, and there may be no demand for more energy. We can therefore assume that about 75% of the extra energy produced by the diversion can be used to reduce fuel costs in Manitoba or sold outside the Province. The average value of this energy is about five mills. The annual benefits of the energy produced by this diversion will then be about six million one hundred thousand dollars (\$6,100,000) per year. The annual costs of the diversion at 8% interest, a 2.2% cost of operation maintenance and depreciation, and a \$100,000,000 capital cost is ten million two hundred thousand dollars (\$10,200,000) per year. Therefore, the net benefits of the diversion are negative at minus four million one hundred thousand dollars (-\$4,100,000) per year.

The diversion is therefore uneconomic at this time. It would result in losses over the five year period from 1977 to 1981 of about \$20,500 in undiscounted terms. These losses are equivalent to a sum of \$15,200,000 when discounted at 8% in 1975. This figure checks approximately with the cost of \$12 million obtained previously with the computer studies. It can be concluded therefore that the diversion is uneconomic at this time due to its high cost of \$100,000,000, and also due to the fact that only 100 feet of head will be developed now below the diversion site. After 1981, however, the diversion will become economic due to the added developed head at Long Spruce.

IT IS THEREFORE RECOMMENDED THAT THE CHURCHILL RIVER DIVERSION SHOULD NOT BE SCHEDULED UNTIL 1981. THIS DELAY OF FIVE YEARS FROM THE PROPOSED DATE OF 1976 WILL ALLOW A SUBSTANTIAL SAVING IN COSTS OF ABOUT \$12 MILLION. FURTHERMORE, IT WILL ALLOW THE NECESSARY STUDIES ON THE ENVIRONMENTAL IMPACT OF THIS DIVERSION TO BE COMPLETED SO THAT THE BEST FINAL ALTERNATIVE CAN BE CHOSEN WITH DUE REGARD TO ALL ENVIRONMENTAL AND ENGINEERING COSTS.

Thank you.



III. 5. Sand beaches were extensive in the northern basin of Southern Indian Lake prior to the flooding.



III. 6. A treed bedrock shoreline on Southern Indian Lake prior to its flooding.

3.3 ALLEN LANSDOWN

Perhaps first of all I should explain why I have asked to be heard at this hearing. I am a Professor and Head of the Department of Civil Engineering at the University of Manitoba. My training has been in the field of civil engineering with emphasis during my post-graduate years on structural design and, to a lesser extent, project evaluation. I'm responsible for the training of all Civil Engineering graduates in this Province, including those who will take up careers in water resource planning.

A few years ago, four of my colleagues and I were moved to protest the manner in which Southern Indian Lake was being treated; primarily because we felt very uncomfortable telling our students how to plan a resource system with this glaring example of bad policy right in our back yards. The Southern Indian Lake and Churchill River Diversion issues are of enormous significance in how we train our future professional engineers who will take on major responsibilities fifteen or twenty years from now. Secondly, I firmly believe that individuals within society who have strong views and perhaps have the opportunity occasionally to catch fleeting glances of possible futures for this Province must speak out clearly and as effectively as they can.

The problem before us has three main facets -- the development of the Churchill River Diversion places an extraordinary burden on our northern environment and many of our northern residents; there is a tremendous economic incentive to carry out this scheme, in spite of its potential environmental hazard (we have heard of dollar savings of \$100,000,000 to \$200,000,000, present value, over the next fifty years, quoted many times, particularly in the last few weeks); and as symptoms of the end to our easy access to energy resources start to appear, the conservation of non-renewable resources in this country becomes more important than ever. We have a dilemma.

What lies behind this problem? Some have chosen to look upon the issues involved as simply one group, primarily university professors, picking away at a second group, primarily Manitoba Hydro. This has not been the case. There has been no major argument with the public utility or with its members. There has not been a serious attempt to question or discredit its methods. Manitoba Hydro's methods, or its employees' methods, are recognized by most Canadian and American utilities as adequate for power planning.

As I see it, the argument has been a continuous debate with government. The issue is policy -- in particular, development policy, as it affects both natural and human resources. Within this perspective, Manitoba Hydro is just like taxpayers, parents, environmentalists, or the residents of Southern Indian Lake. Manitoba Hydro is a party with an interest.

It is also important to recognize that the problems associated with development of hydro electric generating facilities in Canada are not isolated incidents here today but thankfully gone tomorrow. They are a direct result of our almost insatiable demand, or request, for energy; a demand deemed necessary for economic development. This ever-increasing, so-called demand, is bumping us against our society's ability to deliver in the easy, inexpensive, almost unnoticed way that it has been able to do so in the past.

Here are some factors that should be borne in mind when dealing with this problem:

1. Due to our use of cheap energy sources first, the unit cost of extracting energy resources as demand increases tends to increase. Therefore we must recognize, in general, a continued increase in the price of energy in Canada. This may amount to a 200% or 300% increase in the next 15 years, no matter what cunning we apply to its development, simply because we're using up the best sources first.

2. The frontier at the edges of the endless expanse of territory no longer exists. In this respect, the recent gas well blow-out on King Christian Island was of some significance. It drew attention to the fact that our frontier has been pushed to the very high Arctic. Any higher and we'll require our men to study the Russian language. Clearly, our resources are limited.

3. Industrial or economic growth is relatively insensitive to the price of electricity. We cannot kid ourselves that Manitoba is more developed industrially than the Midlands or the Ruhr Valley where electricity costs are twice or more what we pay in Manitoba. In this context, in my personal opinion, the near hysteria on the part of some members of the previous government at the thought of a very tiny increase, a hundredth of a cent per kilowatt hour, was, to say the least, rather absurd.

4. Because we are doubling demand every 10 years due to our 7% per annum load growth, there is a tendency in very large projects for the cost of alternative possibilities to be relatively close to one another, just by virtue of their very large size. It is not unusual to see five or six alternative schemes with a spread in total cost of no more than 10% or 15%.

5. The value of known assignable resources, the so-called "spill-over effect", is much too often set at zero. If a dollar value cannot be assigned, then the item is very often devalued or deemed to be almost worthless. For instance, how much are the geese on the lower Churchill worth? How can we possibly put a dollar value on them without going through rather artificial means to get there? How much is perhaps not having liquid mud flowing down the Burntwood River through Thompson worth in dollar terms?

6. A utility, in our particular case, Manitoba Hydro, has a responsibility to produce electric power as efficiently, and cheaply, as possible but within restraints imposed by society through its government. This is what licensing is all about. For example, if all other interests were ignored, or set at zero, I have no doubt that we would see that the raising of Lake Winnipeg by 32 or 35 feet as an attractive proposition for cheap power. Clearly, this is absurd. It is out of the question.

7. Only now are we waking up to the quality of living as opposed to mere quantity. We are starting to struggle toward a civilized way of life as a partial alternative at least to an Orwellian plastic and tin world of mindless opulence. We're starting to set some social values, which perhaps 20, 30 or 40 years ago we wouldn't recognize. Clearly then, the responsibility for the Churchill River Diversion falls squarely on the shoulders of the Honourable First Minister and his colleagues. The solution to the dilemma that Mr. Schreyer faces again seems to fall into three categories.

One extreme would be to let the dollar economics dominate and set all non-assignables at approximately zero. This appears to be the position of one of the leaders of the Manitoba parties. It tends to deny any sensitivity to human values in the face of hard cash. On the other extreme, we could say, "Don't touch the environment," a position that is also untenable in its pristine, pure form. Policymakers would do well, however, to listen to the environmentalists, particularly those highly trained in the disciplines, particularly if these policymakers happen to have children. A middle ground might be, "Let us be careful of the environment, for a price." Here again we have a problem. What price? This problem faces the government and people of Manitoba today. How much is our environment worth to us? Clearly it has some value. We often forget that we have already sunk hundreds of millions of dollars into environmental protection in this country in the form of sewage collection systems and treatment plants. Over \$100,000,000 has been spent in Winnipeg alone. But still the question of how much faces the government today.

The statement made by Mr. Schreyer recently claims that, as I mentioned earlier, a \$100 to \$200 million, present value, even spread over fifty years, is too much, and hence the policy of not going ahead with the diversion. Mr. Spivak seems to say that very little is too much. His position appears to be that we should squeeze every dollar possible out of the environment for today's quick return. The "fast buck now" approach, incidentally, some claim, got this Province into the now infamous C.F.I. affair. If we can sell off our north quickly to our southern neighbours, we may really be able to cash in in the next few years while there is a tight energy situation down there. An energy situation, incidentally, brought on by colossal bad management of resources and insensitivity to human values that boggles the mind. This ultimate insult to the hewers of wood, drawers of water, of high level flooding as proposed, for quick export, to me as a human being would be beyond the pale of tolerability.

But the issue still remains. How much? The government is clearly on the horns of a dilemma. Ultimately all of us would be satisfied if we could find an alternative which would save the destruction of the Churchill River; would be no more expensive than the plans now contemplated by Manitoba Hydro; even cheaper would be more attractive; and would tend to use our renewable resources in this country more heavily so that our non-renewable resources are conserved -- a formidable challenge at this point.

Over the past many months, a number of rather intense discussions with government, with the Premier, with the Honourable Minister of Mines, Resources and Environmental Management, with senior members of Manitoba Hydro, with members of the Government Caucus, as well as publicly, have been held. All through these discussions, these three desirable criteria were ever present, and have led some of us to very carefully examine some of the basic assumptions we've been making, and to examine alternative after alternative. We have discussed different means of diversion, delay in diversion, and advancing the Nelson River construction scheme many times.

I WANT TO DISCUSS AN ALTERNATIVE WHICH MAY SATISFY ALL THREE CRITERIA; SAVE THE PROVINCE POSSIBLY A GREAT DEAL OF MONEY, SAVE THE CHURCHILL RIVER DIVERSION AND THE SOCIAL NIGHTMARE INVOLVED IN IT, AND STRANGELY ENOUGH, SAVE CANADIAN FOSSIL FUEL. I REFER TO A SIGNIFICANT INTER-CONNECTION BETWEEN THE MANITOBA SYSTEM AND THE SASKATCHEWAN POWER CORPORATION.

Because of the shortage of time, precise and detailed calculations have not been made by me. However, my calculational methods are sufficiently rigorous and realistic to be taken very seriously. By rigor I refer to the use of accurate total water flows, accurate figures for peak demands and for annual energy requirements in both Provinces, and realistic construction schedules.

The results of these calculations, crude as they are, show that such an inter-connection or an integration of the two systems could be effected:

1. With no more construction in Saskatchewan than is already contemplated;
2. With no change in sequence or timing of construction along the Nelson River from that now contemplated;
3. With the construction of an additional inter-connection line between Manitoba and Saskatchewan, perhaps as late as 1983 or 1985, perhaps earlier;
4. With complete abandonment of the Churchill River Diversion;
5. With regulation and control of Lake Winnipeg which is now underway;

Then we find:

1. The Province would save an expenditure of \$100 million over the next three years by not building a diversion. The Province would defer any additional expenditures until somewhere around 1980 or 1983, perhaps 1985. This expenditure might be of the order, by that time, of about \$15 million for additional tie-line capacity.
2. We would incur substantial firm revenues from the sale of energy in all but the low and very low water years in the Nelson Basin. We wouldn't be counting on perhaps selling a bit now and a bit then, with no contract.
3. We would provide Saskatchewan with substantial savings of fuel.
4. For those who view energy conservations with concern, we would save many million tons of Canadian coal.

On first blush, these preliminaries looked too good to be true. However, I believe they are a fair approximation to the effects of inter-connection. If we examine the prairie power system, Manitoba, Saskatchewan, Alberta, we find that Manitoba is predominantly hydro, and is growing more hydro through the development of the Nelson River. Saskatchewan, at the present time, is heavily thermal, primarily relying on lignite coal, with some blocks of hydro in the system. Right now they are about 67% thermal and growing in the thermal field. Alberta is heavily oriented to steam, more so than Saskatchewan.

Looking at the demands for energy, that is the kilowatt hours which we pay about a cent a piece for in our homes, the energy demand will be its highest in the winter, lightest in the summer. This is one of the reasons for talking about storage in the Manitoba system. Looking at the peak load at any one time, that is the capacity of the system called upon at a particular time, kilowatts, not kilowatt hours, or megawatts, as often used in the power industry, we find that the peak occurs over a fairly short period. Usually, I am told, the peak occurs on a Monday morning in January when all heaters are running, industry is starting up for the week after a break at Christmas in some cases, the street lights are still on because it is dark in the morning, and of course, the washing machine is running downstairs while breakfast is cooking.

Another factor is the hour's time difference between Saskatchewan and Manitoba, just as there is an hour's time difference between Saskatchewan and Alberta. The peaks don't occur quite at the same time. These are factors that face us when we look at the system as a whole. Up to now all of our studies have assumed that the Manitoba system is relatively isolated from the rest of the world. This is the approach used by a number of my colleagues and myself up until a few weeks ago.

However, what happens if we were to inter-connect Manitoba and Saskatchewan? I summarized the results in tabular form, but I haven't put them up on any graph. Perhaps I could just read these out. They're very short. I've been using present value calculated at 7% over 50 years. Seven percent is rather arbitrary; it might be six; it might be eight. I took the Hydro graphs of the Nelson River and assumed a very low flow sequence and an average flow sequence, to see whether we would get caught with our pants down in a very low year. I assumed that the 1929 long low period started in 1929 and hit us in 1976. This would be about the worst condition we might have to face historically.

Saving by not building the Churchill River Diversion has already been alluded to. This is the very low flow year, very low flow sequence. Thus, \$93.6 million is the present value of \$100 million spent over the next three years; cost of an additional tie-line built somewhere in the 1980's. I've assumed here \$16 million present value. This would be a cost, not a saving, of present value, 7.1. Approximate revenue from Saskatchewan energy transfer would be about \$40 million. This is a surprising figure. Again, these are very approximate, but the total dollar savings to Manitoba, even assuming the low flow sequence is something of the order of \$100 million. I calculate it as \$126 million with the assumptions that I have used. The saving to Saskatchewan, assuming a 50/50 sharing of fuel, when Manitoba is able to provide Saskatchewan with power in our average to high years, would be \$40 million.

For the environmentalist, even in the dry sequence, the coal not burned in Saskatchewan for the first 16 years only would be 13.6 million tons of coal not burned which is about 1 million tons a year. To be more fair in costing, if we take an average flow sequence, the figures would be as follows (although I agree with Manitoba Hydro that we must look at both flow years when we are protecting the system):

- saving by not building the Churchill River Diversion, the same \$93.6 million dollars (the \$100 million brought to present value).
- cost of an additional tie-line, the same costs, 7.1, \$16 million brought forward.
- approximate revenue from Saskatchewan energy transfers \$120 million.
- total dollar savings to Manitoba over a 50 year period, something of the order of \$200 million, present value, by my calculations.
- savings to Saskatchewan for not burning coal -- we are now assuming that we don't get hit on the front end of our scheme -- with the lowest years for an average year -- \$120 million in fuel displaced.

Again, I repeat, the savings are staggering. They result from looking at two complementary systems as a whole rather than in two parts; a steam dominant, a hydro dominant -- the hydro dominant with fairly high capacity and the Nelson River built exactly as proposed.

Questions arise whether Saskatchewan would be interested, or able to participate, whether its coal reserves would allow her to cover off on our dry years if they were to occur early in the sequence. Of course, there are other questions. Does Saskatchewan have a thermal capacity to cover off this energy? As this is a crucial factor to this whole argument, I felt I would be most remiss in coming before your hearing, Mr. Chairman, to present this rather startling alternative without first checking out some of these points. In a discussion yesterday with Mr. Bruce Campbell, Assistant General Manager of Saskatchewan Power Corporation, these points were raised. We examined a number of points of this possibility of inter-connection. From the conversation with Mr. Campbell, I conclude that there are no impediments at the Saskatchewan end. I was left with the impression that although recent studies of possible tie-lines have not been made, according to his information, except for the concern of the minor links now in service, Saskatchewan Power is interested in inter-connection.

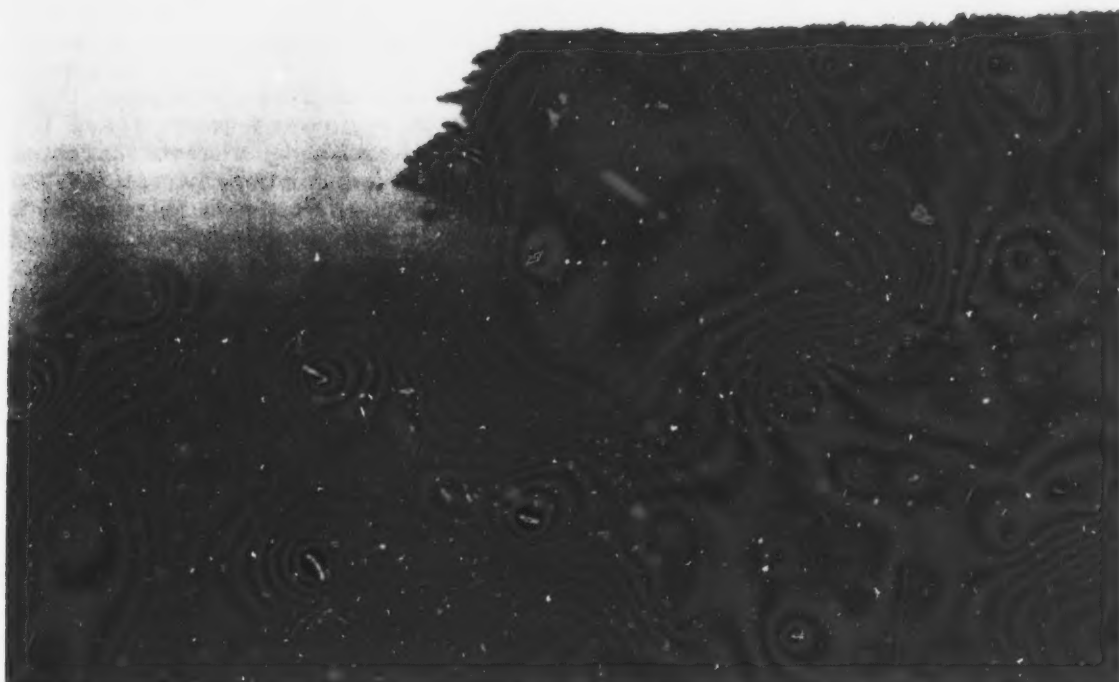
In fact, we got into a discussion of inter-connecting Saskatchewan with Alberta. There's a rather interesting technical problem there which I don't understand. The east system meets the west system if they inter-connect; that is New York dominated, Los Angeles dominated and some problems exist in system stability; nothing to do with us here. He did indicate that probably, if we were talking about a 500 megawatt inter-connection at the present time, it may not be worthwhile economically. However, he did admit that he said this without the advantages of seeing any studies in the last while. We also discussed the possible advantages to the two Provinces of considering nuclear power when we get further up our sequences. We would then be talking of a bigger power system, and here again there are clear advantages.

There are also clear advantages, although not substantial, in the time zone difference. This is one of the key points in the Saskatchewan-Alberta negotiations I was led to understand. There's another time distance over there. I was left with the impression then that there are no major impediments on that end.

I wish to re-emphasize that there is a viable alternative to the Churchill River Diversion which would save this Province many millions of dollars right now. This is rather significant. We have to raise large amounts of capital because of our construction program. It would save the Churchill River, something that perhaps we as "Friends of the Churchill" are rather interested in as well, and would reduce the coal consumption in Canada by many millions of tons. It is rather dependent on the great energy storage capacity of Lake Winnipeg, I admit. I have taken the construction sequence along the Nelson exactly as Manitoba Hydro has proposed. Nothing, it appears, stands in the way of this alternative but our resolve to seize upon it. I would suggest Mr. Chairman that this matter be taken seriously.

I would like to suggest, Mr. Chairman, that since there is very little time in which to change our minds as we are pressed for a decision to go on with construction immediately, that a very powerful and dedicated negotiating team be immediately formed by the government. This is too important a matter to leave to any one party at interest. It should be formed immediately and negotiation of this matter on principle should be commenced with Saskatchewan. If these negotiations in principle were successful, then time is created for further design work and study, because tie-lines can be built faster than dams, even if we need a tie-line in 1976. The need for the Churchill River Diversion under this proposal to meet Manitoba's need economically would vanish like a bad dream at dawn.

Thank you.



III. 7. A marshy shoreline in the north basin of Southern Indian Lake, particularly sensitive to three metres of flooding.

3.4 GERALD MALAHER

I propose this afternoon to repeat, in substance, the remarks that I made to members of the Manitoba Government last week. I shan't give that in its entirety, but will try to shorten it in some degree, in view of the pressure of time this afternoon.

Until very recently, virtually all of the discussion, all the publicity, and all the public information regarding the proposed diversion of the Churchill River has centered on Southern Indian Lake and the problems of its people. I don't wish in any way to reduce the severity of conditions that are going to change on Southern Indian if this goes ahead, and I don't wish the people of Southern Indian to think that I'm not thinking on their behalf, but it is my view that this is rather tragic, for the effects of a diversion on the environment of Northern Manitoba and on people along the diversion route extend far beyond Southern Indian itself. Yet to the people of Manitoba, it is only a Southern Indian problem. They do not realize the magnitude of the proposed project, or the massive effects on the environment of other natural resources.

Let us consider the wider aspects of the project. The Churchill River, as it flows through Manitoba from the Saskatchewan border to well below Missi Falls at the outlet of Southern Indian Lake, is really a magnificent chain of lakes joined by short stretches of river, unequalled anywhere else in Manitoba. I know this country. I've travelled most of it. I have maintained long before the present controversy arose, that potentially it is the finest tourist area in Northern Manitoba, awaiting only access, capital investment and promotion. Today, just as the heart of the area at Leaf Rapids becomes accessible by road from Thompson, the tourist potential for one hundred miles downstream from Leaf Rapids is threatened by flooding of Southern Indian Lake.

The proposed dam at Missi Falls will have the opposite effect on more than 250 miles of the Lower Churchill, from Missi Falls to the coast. This 250 miles is to be denied virtually all upstream flow and to be dependent on the inflow of small tributary streams below the dam. Diversion of 30,000 C.F.S. at Southern Indian Lake is to divert virtually the entire average flow of the Churchill River at that point. That action will drastically change the ecology of the Lower Churchill. Hydro claims that they are not abandoning the Lower Churchill but will release virtually the entire normal flow, at certain times, particularly during their high flow periods, possibly in July. However, if that does occur, then I submit that we are not helping things at all, but we are, in fact, changing the regime of the river, from time to time, in such a way that no new and stable ecological situation can evolve.

We don't know fully what the resources are on this portion of the river but we do know that there are substantial populations of geese, for example. We know that about 5,000 nesting geese were located on Fidler Lake alone some years ago. We know that lower down the river, many broods of young geese can be found.

Now let's look at the area above Missi Falls. Flooding to 850 feet is to put about 12 1/2 feet on the average level of Southern Indian Lake. Initial flooding to 847 will mean adding some 9 1/2 feet to the average level. Flooding will occur 100 miles back upstream to Leaf Rapids. The entire shore line of Southern Indian Lake and the islands in it will be flooded, in some cases to a considerable distance back from the present shoreline, and into the timber. This, in my opinion, will make a dramatic difference to the fishery. The main source of livelihood for the Southern Indian people is fishing and trapping, but fishing produces the greater revenue. The fish that produces the greatest revenue is whitefish, [*coregonus clupeaformis*]. These fish spawn at water depths from 5 to 12 feet. The addition of 9 to 12 feet of water on the lake will, in my opinion, destroy all existing spawning beds. Whether whitefish can find new natural spawning grounds, within the newly flooded area, at required depths, is very problematical. They require a clean bottom of sand, gravel or pebble. They do not wish to spawn and will not spawn in decaying vegetation. Diversion of the main flow of the Churchill River through Southern Bay may so reduce the flow of nutrients through the main body of the lake that productivity is effected. Floating debris in the lake may, within a few years, make fishing with gill nets almost unprofitable. A flooded shoreline may make landing hazardous in case of storms. Debris will be a hazard to boat transportation. These are some of the problems that the people of Southern Indian Lake face.

In regard to trapping, 86,000 acres is stated as likely to be flooded. This is a conservative estimate. This will be lost ground. Land animals must leave it. Aquatic animals such as beaver and muskrat cannot hope to survive, even after a new shoreline is eventually established. If winter drawdown of water leaves these animals high and dry, they will be frozen out. I should say here, in all fairness, ladies and gentlemen, that in last week's discussions, I was told that Southern Indian Lake will not be drawn down any more than 2 feet during the winter period, and this is not as significant as I had anticipated.

The Southern Indian Lake community is the most viable native community in Manitoba. Many of the original settlers moved up from Nelson House. They were the most aggressive hunters who moved far out to the best trapping grounds. Today we have a settlement at Southern Indian where Indians, whites and those of mixed blood work together in harmony, in relatively prosperous conditions. These people have carved their own security by developing all the talents of use in their chosen environment, but these are not the only people affected, nor is Southern Indian the only environment adversely affected. Diversion of 30,000 cubic feet from South Bay over the height of land to Issick Lake on the Rat River, together with construction of a control dam and power site at Notigi, will result in drastic flooding of the Rat River Valley, for some 75 to 80 miles, to a depth of perhaps 60 feet at the lower end, at the bottom of Notigi Dam. Flooded forest land is here estimated at a further 90,000 acres. Much of the timber will be left standing. The Valley is the spring trapping ground of the Nelson House Indian Band. The 30,000 cubic feet spilled over or through the Notigi Dam will enter the Burntwood River at Three Point Lake, increasing the flow to near four times normal flow. That this small stream can carry this flow over a protracted period of time, without serious erosion, flooding and deposition of silt and debris in the lake enlargements of the river, seems inconceivable to me. This diversion route from Notigi to Split Lake is scheduled for later development and impoundment for the major additional flooding in the creation of new reservoirs above each of the proposed dam sites along that diversion. I have seen no figures and have heard no estimates of any damages below Notigi. These are apparently ignored. The ultimate destination of silt and debris will probably be at Split Lake, some 150 miles downstream where the

Burntwood enters the Nelson. This will completely alter the ecology of the whole river, pollute Split Lake, and adversely effect the livelihood of another community of nearly 1,000 people who live on its shores.

To recapitulate, we have as follows:

- more than 250 miles of the Lower Churchill River deprived of upstream water, with unknown effects on the ecology and on the Port of Churchill;
- 100 miles of the Churchill River above Missi Falls flooded, including all of Southern Indian Lake, with adverse effects on the livelihood of its people;
- 75 to 80 miles of the Rat River drastically flooded;
- over 1,500 people at Nelson House effected;
- 150 miles of the Burtwood, subject first to erosion, and later to some unspecified but drastic flooding;
- silting and debris in Split Lake, adversely effecting another 1,000 people;
- in total, 250 miles of river denuded of much of its water;
- nearly 300 miles of river flooded with many thousands of miles of unstable, newly flooded shoreline on the lakes and rivers involved;
- 3,000 Manitobans directly adversely affected.

I felt so keenly on the lack of information in regard to this project that I have, in collaboration with Dr. Newbury, contributed my views on the proposed diversion of the Churchill River in an article in "Nature Canada." I hope it will acquaint the public much more fully with what is involved while providing an alternative to diversion of our last great river. I have a few advance copies which I will leave with you, Mr. Chairman, and I ask that it be included as a presentation to this Council. [Cf. R. Newbury and G. W. Malaher, 1972. The Destruction of Manitoba's Last Great River. Nature Canada, Vol. 1 (4): 4-13. - eds.]

I have not dealt directly with wildlife or other natural resources losses. There is a good reason for this. Neither I, nor anyone, know at this time what those losses will be. There is presently a serious lack of basic information on which to base sound judgments. This is another tragedy of the present situation. The McTaggart-Cowan Report emphasizes this.

ARE WE TO MAKE A DECISION TODAY, WITHOUT BASIC KNOWLEDGE ON WHICH TO MAKE A SOUND DECISION? A DECISION TAKEN TODAY IS ONE WHICH CANNOT BE REVERSED, IF IT IS A DECISION TO DIVERT THE CHURCHILL. I HOPE THAT DECISION, LADIES AND GENTLEMEN, WILL NOT BE MADE WITHOUT AT LEAST ADEQUATE INFORMATION.

Thank you.

3.5 ROBERT NEWBURY

I've spoken about the Southern Indian Lake issue several times since 1967 so I'm not going to spend much time on introductory material. As well, many other people have covered it already. Instead, I'd like to point out a few things about the issue and my own involvement that are significant.

THE REASON THAT I HAVE REMAINED INVOLVED IN THIS ISSUE IS THAT ON COMPARING MANITOBA TO OTHER PARTS OF NORTH AMERICA, I HAVE COME TO REALIZE THAT WE'RE MAKING DECISIONS IN THIS PROVINCE FOR WHICH WE HAVE VERY LITTLE DATA. OUR SHORT-TERM SOLUTIONS ARE CLOSE TO THE GROOVES AND THE RAILS THAT OTHER SOCIETIES HAVE FOLLOWED INTO A PATH THAT ENDS IN AN UNLIVABLE ENVIRONMENT.

When you identify, by comparing elsewhere -- the same way as I am going to compare other reservoirs today -- these decisions and the reasons behind those decisions, whether they're political or economic, they all lead to a drastic deterioration in the kind of environment that we like to define as Manitoban. Now, I've been called an elitist for this favoured view of Manitoba but I'll identify it with the people in the front row who, traditionally, I guess have been elitists also. There is some substance to their land ethic that is based on difference between a land and a country. A country denotes a quality, something of the people that live there. The land is simply the physical resource. A few years ago it didn't matter much whether you called Manitoba land or country, because so much of it was unexplored. Now we realize that there is a difference. When you move into a very harsh environment like Northern Manitoba, you soon realize that only a small portion of it is suitable for habitation. I was reminded of this when presenting these issues in the United States about three years ago. Someone in the audience from the Department of the Interior, an elderly gentleman, who had been involved in homesteading the American West said, "You people are now homesteading Northern Manitoba, and you're dividing it up into lots, except now you're homesteading for energy, for water, for shorelines and not just agricultural lands. Do you have any idea of how to rank the different kinds of land that are up there, because in the American West, we'd laid a grid over the map and gave people land to grow wheat in that was pure rock. Do you understand, in Northern Manitoba, how to rank your land?" I had to answer no then, and I have to answer no now. The gross area, under development, is 130,000 square miles that contains the basins of the Churchill River and the Nelson River in Manitoba. If you add up just the river valley and lakeshore land, it's less than 5,000 square miles. The river valley land is where these people live that have come from Southern Indian. It's where anyone would select to live for a number of reasons. It's more livable because of water supply, waste disposal, transportation and stable shorelines that have developed because of the flows and fluctuations that take place on the major lake and river systems. The argument is often put forward that power is most important. We need to get it in the cheapest way and all we're destroying is 5,000 square miles. There are 125,000 square miles left. However, this development is picking out the select part of the land and destroying it. If you wanted to kill someone, you could shoot them in the leg, and they can still go on. So you can shoot up some other land up there, as we do when we put in mining development and it will still survive. The problem is if you select only 2% of the body -- I'm not a medical man -- but if you select only 2% of their body, and you shoot them in the brain, they die right away. Our problem is that we're shooting at the brain when we take away the rivers and the river valleys from the livable resource in the north.

I'd like to begin the slides by pointing out the position of Northern Manitoba relative to other Provinces and other drainage systems in Canada. Northern Manitoba receives water from the western interior of Canada, from as far west as B.C., as far south as Minneapolis, and nearly as far east as Lake Superior. That very large drainage basin gathers in Lake Winnipeg and spills through the Churchill-Nelson Trough, a topographic low point that allows water from a very large part of the continent to cross the Canadian Shield. Now that's in contrast to drainage systems that occur elsewhere that flow off the Canadian Shield or into river systems that run around the Shield. Manitoba has a unique water inheritance because of this topographic low point. We have two large river systems that follow the trough, the Nelson River on the south that flows out of Lake Winnipeg to Hudson Bay, and the Churchill River that lies on the north side of the trough, that flows from Alberta through Saskatchewan and then through Northern Manitoba.

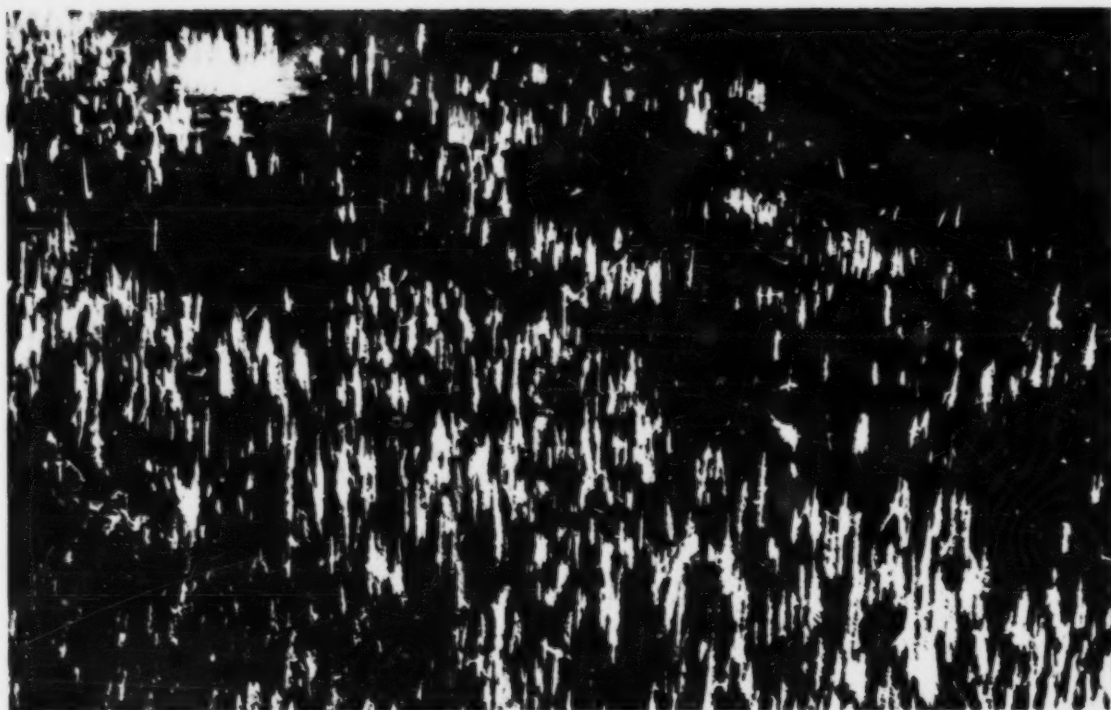
The diversion area in a bit more detail is outlined in the black area. Southern Indian Lake is similar to the Lake-of-the-Woods country because the Canadian Shield extends up through Northern Manitoba as well. The islands are bedrock-cored. They have an overburden of glacial till, sands and other lacustrine deposits. By and large, because of the flows and the fluctuations in water levels, they have established stable shorelines. Water enters Southern Indian Lake through Leaf Rapids, which has been mentioned before as the site of the new town where the highway from Thompson to Lynn Lake crosses the Churchill River. The village of South Indian itself is on a southern arm of the lake that separates Southern Bay from the major part of the basin. There is some work going on in relocating the village or relocating parts of the village. There will be some problems locally, of course, of changing what is now a static water condition in this area into a flowing system, with the Churchill Diversion waters passing through the townsite on their way to Southern Bay. The shoreline in the village area is fairly typical of the lakes in that region that are connected to the Churchill or to the Nelson River systems. It's fairly stable. Other areas of the lake, particularly the Northern Basin, would have up to approximately 15% of the shoreline length in sand beaches that were established where glacial outwash deposits are predominantly sand. There are other types of shorelines as well. Of course, the predominant type of shoreline is bedrock at the water level. The problem is that when the shoreline is flooded, the lake level rises above the bedrock that's immediately adjacent to the existing shore and moves into the glacial till and overburden that overlie the bedrock. The waves then re-work what is now a stable shoreline. There are places where the bedrock is very close to the surface that would be re-established rapidly but there are other places in embayments, for example, where there are well established marshes. These would take a long time to re-establish further inland. Seven feet of flooding would move these areas back considerably. Now there would be no argument about this whole project if it would recover at a very rapid rate. The effects then would be short term and minimal, but in trying to assess resource values and balance them off with power costs, it's been a problem of trying to date or trying to give some time scale to the processes that are now going to act around that lake to re-establish it. No one knows exactly what the time scale is and so we visited a number of older reservoirs in the area to see their degree of recovery.

The Laurie River Reservoir is situated on a small tributary of the Churchill River at about the same latitude as Southern Indian Lake. The vegetation in the reservoir area remains standing, although killed-off, and effectively seems to protect the shoreline area from the waves. The Laurie River area was flooded in 1952 so that this is a picture of what's still there at 20 years. (See Ill. 8 on page 39).

The Kelsey Reservoir was flooded in the early 1960's. It extends back up the Nelson Channel from Split Lake some 80 miles into Sipiwesk Lake. Sipiwesk Lake itself is indicative of the kind of flooding that we might anticipate on Southern Indian with a more predominant bedrock shoreline because it received only 7 to 8 feet of water when the impoundment was made. One feature that is different from Laurie River is the very high turbidity of the water as it moves through the area and picks up eroding clays. The water already has a high clay content as it comes out of Lake Winnipeg and erosion of the shorelines contributes more clay to the flow as the water moves through the reservoir. The next process is one that is difficult to gauge from aerial photographs but is very significant when you are on the lake. The 7 feet of flooding 10 years ago simply advanced the water level over the established beaches and shorelines into the vegetation but it hasn't destroyed the trees and removed them. All it's done is killed off a strip of standing vegetation around the lake. The lake area is a little over 170 square miles but the total flooding, if you add up the shoreline strips, is only 10 square miles. A very small portion of the total area is affected, but it makes access to and from the shoreline very difficult. There are few gaps left in the dead margin that you can travel through to the new shoreline. The problem is not just aesthetics. It is getting through these dead trees and back up to the new shoreline level. It's not that there isn't a shoreline. The problem is getting to the shoreline through the existing standing timber. (See III. 9 on page 39)

We also went to Cedar Lake. There's more information on Cedar Lake incidentally than almost any of these other reservoirs. It is interesting to note in this picture of the Grand Rapids Spillway what a large limestone bedded river channel looks like when the water is taken out of it below the Spillway. In the Cedar Lake area which was flooded about 12 feet around 10 years ago, the same problem exists of access to the new shoreline. The vegetation is by and large still standing and the rates of degradation are very slow. We are looking at a condition which will persist for at least the planning horizon that we use for power, and for most of the planning horizons that we use for resource development of 10, 20 or even 30 years. There is not rapid degradation. There is not rapid recovery. It may be a century long process at least. (See III. 11 on page 48).

The latest reservoir is the Kettle Rapid Reservoir which was flooded in the 1970's. In that area, the dam across the channel flooded back some 25 or so miles up the valley. The head at Kettle is in the order of 100 feet, so right adjacent to the dam everything is under water. The parts that we'd be interested in are the areas around the fringe of the reservoir where embayments were flooded to the same depth as is proposed for Southern Indian. In these areas, the trees are standing in water but they're still green. They've just been flooded recently and they haven't died off yet. As the water moves through the area over what are now small bars, it picks up the clay materials in suspension. As you move back up into the embayments into the areas that are flooded only to 7 to 10 feet or so, there is a factor here that was not seen in Cedar Lake. Lots of trees are standing at an angle because the land that's being flooded in these embayments far up off the channels is in a permafrost condition. The warm water melts the permafrost causing subsidence. As the land subsides, the trees assume funny-looking angles. Another factor of permafrost, besides the general subsidence, occurs with bank erosion. In the upper parts of the Kettle Reservoir before flooding, you can see the bedrock on the river bottom. This is the effect of having the flow act for a few thousand years cutting through the overlying material and establishing stable shorelines. There is permafrost in the area, but it's on the upland. As the warm water moves against the bank, it tends not only to erode away the material, but the material melts and then flows itself. The frozen layer is typically 30 to 50% water in the form of small ice crystals right within the soil and as that melts, the material slumps away and falls in. The bank is not only eroded, it also retreats back as melting occurs. This is a close-up of the same condition in the Kelsey Reservoir on shoreline in permafrost.



III.8. Dead spruce and birch remain standing around the flooded Laurie River shoreline after 20 years. Where the shoreline is predominantly bedrock and no significant wave action occurs, local inflows provide clearer water to embayments.



III. 9. Although flooding was limited at Sipiwesk Lake dead shoreline vegetation remains in place after 13 years, making access to and from the water difficult in the entire lake.

You can see the large ice lenses in this case that were buried underneath the organic layer that supported the vegetation and the materials that are now melting and slumping down below. As melting occurs, the trees fall in and the bank retreats.

In summary, we've looked at reservoirs that were up to 20 or so years old. The processes are still extremely active. In other words, the condition is not one that's stabilizing. In fact, the conditions seem to be as active in the new ones as they are in the 20 year old ones.

I'd also like to look at a few diversion problems and examine, from a slightly different perspective, where the Lower Churchill River must be re-established. There are a number of measures of this that you could make, technical ones, such as sediment transport and bank stability. A rough measure as imperfect as our understanding, is that if we're diverting three-quarters or four-fifths of the flow of the Churchill River and re-establishing it in another valley that hasn't had that kind of flow, then a measure of what has to happen before stability recurs in that valley can be obtained by comparing it to the Churchill River today. Missi Falls is the point where the water leaves Southern Indian Lake and enters the Lower Churchill River that Gerry Malaher spoke about earlier. The character of the Lower Churchill is much like that of the Upper Nelson country. There are bedrock cored islands and bedrock outcrops on the shorelines. It's a series of lakes connected by short reaches of rapids and falls. After a reach of 100 miles or so of lakes and rapids, the Lower Churchill becomes a single channel which continues for 160 miles to Hudson Bay. In the last 7 or 8 thousand years, the river has down-cut through the uplands and established itself right on the bedrock surface. The effect of that in the area is to produce a valley or an environment that I referred to as the brain of the country -- the choicest part of the land. The valley has drainage, better vegetation growth, and many other advantages over the poorly integrated drainage of the uplands. On the uplands, there are permafrost land forms and peat bogs, typical of Northern Manitoba. The channel itself, as Gerry Malaher mentioned, is maintained each winter by the high flows and heavy ice cover that's formed during the winter. The ice scour zone provides a major goose rearing area for the Lower Churchill Valley. About 120 miles above Hudson Bay, in a place called Portage View Rapids, the river bed changes to limestone. The river is a quarter of a mile to a third of a mile wide with a flow of about 37,000 C.F.S. The valley is 10 or 20% bigger than that of the Winnipeg River.

One problem in diverting this river is its size. The river drains about 100,000 square miles upstream of Southern Indian Lake. It will be diverted to the headwaters of a small local tributary system to the Nelson River, the Rat-Burntwood Valley, that has not previously been subject to high flows. (See III. 14 on page 55). The ultimate state that must be established will be a new Lower Churchill River in the Rat-Burntwood Valley. Part of the flow in the Lower Churchill during flood peaks will be released in the old channel and about 80% of the total flow will be diverted. The Rat Valley gets larger downstream and develops a mean flow in the order of 1,000 to 2,000 C.F.S. by Notigi Lake. The channel is in the order of 50 or 60 feet wide at the Notigi Control Site. The Notigi reservoir extends back up into the Southern Indian Lake. There are many places in it, of course, that will be changed by the increased flows and flooding. On the Burntwood at Thompson, there are flood peaks that occur infrequently that are of the order of magnitude of the diversion flows. The problem is that those flood peaks will now occur 85 or 90% of the time. The re-adjustment process here is one of channel widening through bank erosion as it broadens to accommodate a very much larger river. The argument has been put forward, the Red River for example, with a mean flow of 7,000 C.F.S., also had occasional flood flows of 100,000 C.F.S., but if it had 100,000 C.F.S. flows persistently, St. Boniface and River Heights would be river channels. The

eroded Burntwood River materials, as Mr. Malaher mentioned, will be finally deposited in Split Lake. It's difficult to say exactly how much and when the materials will arrive because there are lakes along the river system in which material will be a series of erosion areas followed by depositional areas. There are no lakes in the channel below Thompson and unless a dam is built at First Rapids, causing an artificial lake to form, material from the Lower Burntwood will be deposited in Split Lake. At present, the water that's coming into Split Lake from the Burntwood is slightly less turbid than the Nelson water.

Only two diversions at this latitude are presently in operation; neither are of the scale of the proposed Churchill diversion. There's a diversion of a few hundred C.F.S. in Northern Manitoba on the Butnau River that lies in the discontinuous permafrost zone; there's another diversion in Western Ontario on the Ogoki River that took place back in the 1940's. These are examples of the kinds of processes of adjustment that have to take place on the Burntwood River but there at a much larger scale. The small Butnau River with a maximum flow in the order of 900 C.F.S. was diverted into the Kettle River via a dug channel so that water wouldn't flow in behind the dykes on the Kettle Rapids Reservoir. This diversion took place through a permafrost area that was not subject to water before. There was a dramatic increase in the turbidity of the water, particularly of the Kettle River as it mixed with the Butnau Diversion. There's a tremendous pickup in material, of course, as the dug channel changes into the new lower Butnau River. The banks are undercut and the organic surface materials fall into the channel in a somewhat similar fashion as is caused by flooding in permafrost. In this case, bank slumping is occurring at a rate of about 30 feet per year. This example is important because it produced features of moving water in permafrost, but its small scale is far removed from the Churchill River Diversion.

The Ogoki Diversion, even though not in permafrost, is a slightly better example as it is larger. The Ogoki Diversion consisted of building a dam similar to the planned Missi Falls dam to stop the Ogoki River on its path to James Bay. A reservoir was created behind the dam that spilled southwards into a small tributary of Lake Nipigon, the Little Jackfish River. The Ogoki is a fairly large river with about 4,000 C.F.S. mean flow that was diverted into a river that had only about 600 C.F.S. of flow. In this case, as in the Churchill diversion, the end of a river was diverted to the top of another drainage basin. The dam on the Ogoki was built in 1940. Dead trees are still lying on the surface of the reservoir but there is no more standing timber. Slowly the existing shoreline is eroding back within the range of level fluctuation. The outlet structure that spills water into the Little Jackfish Valley is built on the reservoir in a manner similar to the proposed Notogi Lake structure. The effects of clearing near the dam are apparent. The area was cleared and bulldozed off to create a shoreline that is relatively habitable but the major part of the reservoir is still in the uncleared stage. After 32 years, the tree trunks persist. They haven't degraded away even though it's at a more southern latitude. They just lie down in the process. Following the diversion, the Little Jackfish channel first downcut to the bedrock surface through the overburden and is now very actively eroding away the sides of the valley. Eventually, it will widen to form essentially the shape of the abandoned Lower Ogoki River. Undercutting and bank slumping remains active after 32 years. The material from the 24 mile long channel was deposited in Ombabiki Bay on Lake Nipigon. It has formed a delta that extends out into the bay several miles that has emerged only during the last decade. The material that's being received in the delta consists of dead vegetation and sediments from the banks. This deposition is similar to that which will occur in Split Lake.

Finally, to reiterate, the construction of the Churchill Diversion really hasn't started yet, and there are several options still available that you heard about this morning. At stake are special characteristics in an otherwise not very pleasant environment. These are special characteristics that people who live there appreciate, but we, who are homesteading there, don't yet fully understand. If the decision to go ahead is taken, it should be done with full knowledge of the characteristics that are being lost. My principal concern is it's not being done that way. Instead, it's a map-planning approach where as long as there's lines on a map, they must be rivers, and as long as there are lakes, they must be similar to those in the south. That's just not the case.

Thank you.



III. 10. The Lower Churchill River below Upper Canyon prior to the diversion.

The "oasis" effect of large northern streams is well illustrated in this view. Centuries of downcutting and erosion have stabilized the Churchill valley allowing local drainage to develop, banks to stabilize, and vegetation channel are clearly visible by increased tree growth. In sharp contrast, the flat marshy uplands to the left of the channel have poorly developed drainage and stunted tree growth. In addition to providing a more livable environment along the valleys, fish production, transportation, water supply and sewage disposal are also assisted by the stable through-flowing system.

3.6 RUBEN SIMKIN

The first point I want to make is that we are so accustomed to sacrificing our ecology for material output or economic development that we've come to believe that the choice is inevitable and that it is appropriate to think of all our alternatives in these terms. This view is only partly correct. It is every bit as correct and, at present, more correct to argue that we do not have this choice in the long run. Our economy depends on our resources. Resources depend on the ecosphere. If we keep sacrificing more and more of our ecology for more and more output, we will not end up with a larger output but we will end up with a poor environment. We'll end up with a destroyed ecosphere and an impoverished economy. Man has so often traded the environment for growth -- that environment is now in jeopardy. If this kind of trade-off continues, we are bound to end up with neither.

This argument may sound rather academic. A simple well-known example will show that it is not. The introduction of DDT left enormous increases in output. Anyone counting the benefits and costs inevitably concluded it was highly beneficial, not only because the benefits were large but because no one had the foggiest idea of what the costs were to society. Everyone assumed they were bound to be small because they were unknown. The first attempt to measure costs by Rachel Carson was ridiculed as sheer fantasy. In less than a decade following the publication of her book, "Silent Spring", scientists were dumbfounded by the discovery that her study estimated only a minute part of the total costs.

This experience, which has been duplicated time and time again, with only minor variations, leads to an obvious conclusion. If you don't know, don't do it until you know. The old adage, "What you don't know won't hurt you," is unfortunately false. We do not know what the total costs of the Churchill River Diversion are. Diversion alternatives were recently reviewed by three experts including McTaggart-Cowan who was Chairman of the Review Committee. They repeatedly stated that there is insufficient data to properly estimate the ecological damage and hence the corresponding economic costs. It is, therefore, incorrect to say that the present Hydro proposal is cheaper than alternatives which involve less ecological damage. All we can say is that the present proposal will cost fewer dollars today. We may well find within a few years that the present proposal is disasterously expensive. Only those who enjoy gambling and delight in undertaking high risk ventures will legitimately support the Churchill River Diversion. If our attitude is a cautious one, and we are fearful of the ecological damage, it must be viewed as rash and economically unsound.

Now the second observation I wish to make concerns the validity of the cost/benefit approach in the present context. The theory for calculating costs and benefits, assuming that it can be calculated, is based on the premise that when the capital use in the project is fully depreciated or obsolete, we will have the same choices we originally had. After 20 or 50 years, for example, we can choose between the original alternatives. This is possible only if the original choice does not involve the destruction of alternatives but, in this case, the alternative of using the Lower Churchill for the development of other economic projects is eliminated. The present decision, if taken, is irreversible. When the decision made leads to the destruction of

one of the alternatives, then the cost/benefit approach becomes highly suspect. When, in addition, there's very great uncertainty with respect to the long-run benefits which are lost, then the standard cost/benefit methods are doubly suspect. These comments explain an annoying paradox. Our common sense suggests there's something wrong with cost/benefit studies in these circumstances and yet the method seems to be rational or technically efficient. The method is rational but it has been misapplied. Our common sense tells us that the cost of destroying a resource of great potential may be exceedingly, perhaps, astronomically, high. Our common sense is right.

One reason why this high figure is not reflected in the Hydro Cost Benefit Study is that a 20 year cut-off period is used. Potential costs and benefits after 20 years are arbitrarily ignored. This is tantamount to saying that future generations don't count, or that they will agree with our present assessment of the value of resources. To take this position is rash. In the usual cost/benefit analysis, such an attitude is not implied because resources are not destroyed and future generations are allowed to face the same choice as the present generation. Therefore, if we wish to avoid being rash, we must view with extreme caution the application of cost/benefit techniques in situations where one resource is virtually destroyed and must be careful to make no decisions which may burden future generations to an unreasonable extent.

Common sense correctly suggests the destruction of potential valuable resources should be tolerated only when the situation is desperate. But power costs in Manitoba are amongst the lowest in the world and it cannot be claimed that we are in desperate straits. The revealed preference of Hydro seems to be for further expansion. They have, through advertising, encouraged customers to use more electricity at peak periods. The pricing policy has not been directed at restricting demand nor have a host of other instruments for the purpose of lowering the growth rate of demand been explored. Sound economics require that the Churchill River Diversion, if considered at all, should be considered as a very last resort and only after potential ecological damage and related costs have been thoroughly investigated.

Thank you.

3.7 CASS BOOY

You may all wonder whether it is correct for me to participate in the discussion here, since I am a member of the Clean Environment Commission. There is no doubt that the raising of Southern Indian Lake and the diversion of the Churchill River into the Nelson constitutes contamination in the sense of the Clean Environment Act. There is no doubt that since the Crown and its agencies are expressly bound by the Act that Manitoba Hydro must, under the provisions of the Act, submit its proposal to the Clean Environment Commission and obtain its approval and comply with any limits prescribed by the Commission. In other words, this issue should be dealt with by the Clean Environment Commission instead of here. However, the Minister has made use of a new power given to him in a recent amendment to the Act and has directed the Commission not to investigate the Churchill River Diversion or any other matter related to the Nelson power development. Therefore, this leaves me free to comment on the issue as a private citizen.

Mr. Chairman, I have to abbreviate what I want to say in view of the time. As an engineer, substantially involved in water resource development and in environmental issues, I'm very much aware of the social, economic and also the political aspects of these problems. I do not fault the government for sacrificing substantial environmental values for the sake of providing our Province with adequate power or of achieving economy in so doing. I firmly believe that in all development we should aim for a balance between social, economical, and environmental aspects. My objections to the Government proposal are precisely that it does not achieve this balance; it makes the environmental and social issues totally subservient to a narrowly construed objective of economic gain and growth. The root of today's environmental problem lies in the priority given to our short-term objectives of more consumer goods, of cheap power, of cheap waste disposal, of turning our resources into money as quickly as possible, and of taking demand for real need. All this serves to further our short-term interests at the expense of the environment. It prevents us from dealing effectively with the real needs in our society.

I believe, Mr. Chairman, there is a growing awareness that we, in a few decades, must learn to live with the new reality of a crowded world of finite resources and a limited tolerance of abuse. Here, however, we have a development decision which largely reflects the old priorities. The Government claims that this proposal is substantially different from the original high level diversion. This suggests that it is a reasonable compromise between two extreme viewpoints. This is not so. An examination of the Manitoba Hydro Task Force Report reveals that the decision to limit the flooding to Elevation 850 was an economic decision. The extra expenditure involved was more than offset by other economic factors and thus Mr. Cass-Beggs could write that the present proposal, "provides a power system expansion economically comparable to any other alternative." Of course, we are grateful that we have been spared the senseless resource destruction of the high level diversion and that it proved uneconomical to flood Granville Lake and to destroy the new Leaf Rapids site. That only means that we have corrected a bad error. It does not mean that we have embarked on new priorities.

We have not really put any cash value on Southern Indian Lake, as such, as part of our natural environment, nor on the well being of the people who live there. To show what I mean, let me quickly give you an example. If, in this Province, a farmer wishes to raise pigs, he must provide his piggery with three or four concrete storage pits, and many other things required to prevent the possible contamination of ground water. This costs the farmer several thousand dollars. We do not really know whether the manure would, in fact, contaminate the ground water. Neither do we know that the ground water would ever be utilized. All we do is force the farmer and other industries to expend a large amount of money for the protection of the environment. Now if the owner of the piggery would complain to this Government that these requirements would reduce his profits and increase the price of pork, then the Government would answer that it has an overriding concern for the quality of the environment, which is something rather elusive, and quite incapable of entering into an economic calculation but nevertheless something quite important.

I'm rather pessimistic about the possibility of reversing the decision of the Government to go ahead with the diversion. I concede the large value of the Churchill River Diversion for power production. I recalculated the other day the present value of the energy it is capable of producing. Because the price of the coal it displaces in several power plants, that is at 5 1/2 mills per kilowatt hour, it represents at full development the staggering amount of over \$1 billion dollars, present value. I do not suggest that this is the actual value because that portion of the energy we cannot use and cannot sell is not worth anything. However, in view of increasing demand for clean energy, it is reasonable to assume that we will either use much of it ourselves or sell a very substantial proportion to our neighbouring utilities which are largely dependent on thermal energy.

THEREFORE, IN VIEW OF THE VALUE OF THE DIVERSION, I WOULD NOT NOW OPPOSE THE DECISION OF THE GOVERNMENT TO GO AHEAD WITH IT AND TO DIVERT 30,000 C.F.S. OUT OF THE CHURCHILL RIVER, PROVIDED THAT THE GOVERNMENT CHOOSES A METHOD OF DIVERSION WHICH MINIMIZES THE ENVIRONMENTAL DAMAGE AS MUCH AS IS CONSISTENT WITH THE DECISION.

I BELIEVE A METHOD IS AVAILABLE IN THE PUMPING ALTERNATIVE WHICH WOULD LEAVE SOUTHERN INDIAN LAKE WITHIN ITS NATURAL RANGE OF FLUCTUATIONS.

This pumping alternative was studied by Manitoba Hydro and rejected because of its high cost. The increase in cost has been estimated by Manitoba Hydro itself and by McTaggart-Cowan Commission at about \$30 million dollars. I have recalculated and rechecked this and it seems correct. People from Manitoba Hydro told me this morning that this figure is grossly in error -- that it is double. The cost of the pumping alternative is double the original estimate. As a matter of fact, the other cost has also doubled, in the same time, so the relative magnitude of the two is still practically the same. So, Mr. Chairman, we have a project which in terms of electric energy has an enormous value of several hundreds of millions of dollars to the Province. Now by spending a small fraction on environmental protection, we can save Southern Indian Lake and avoid the social disruption of the local communities. I'm convinced that Southern Indian Lake is worth that, even if you only think in terms of economics, but I

do not want to approach the problem that way. Having decided firmly and unequivocally to go ahead with the diversion, our Government should be willing to spend a reasonable amount of money on effective protection of our environment. The present proposal is entirely inadequate in that respect.

I would like to emphasize a few points why this alternative is much better than the present proposal. It eliminates the very substantial risk, that due to excessive slumping and sliding in the permafrost, the capacity of the channel between Southern Indian and Notigi would prove to be substantially less than is anticipated. If this happens, then Manitoba Hydro may have no choice but to raise the level of Southern Indian Lake substantially above the presently proposed maximum of 850. No one has ever diverted a river like this through an artificial channel in a permafrost area. The design assumptions that are being made are to a large degree pure speculation. Similarly, we simply don't know the effect of ice jams on winter flows. Pumping out of Southern Indian Lake eliminates this uncertainty.

In the second place, with the present proposal, the outlet structure at Notigi is quite unattractive as a power site. It has a head which drops to less than 40 feet. Even this is uncertain because of the previously mentioned permafrost condition. There are no plans for it. The pumping alternative would make Notigi an attractive power site with a head of say 60 feet of which less than 30 feet would be required to produce energy needed for the pumps. The total available energy would thus be more than the present proposal.

In the third place, the environmental damage to the Burntwood River Valley can probably be minimized best by building the Burntwood site as rapidly as possible so that there is a series of reservoirs between Southern Indian Lake and the Nelson River rather than a violently eroding river. The development of the Notigi Reservoir is an essential step in this.

In the fourth place, let us remember that the extra \$30 million, or whatever the cost difference turns out to be, is going to be spent largely on labour and building materials that are ready made in our Province. The pumps themselves are a relatively small part of the cost of the pumping plant. There is no reason why these should not be a Canadian product either. Compare the \$30 million with the lake we are trying to save. We have on the one hand labour and materials in over abundance and, on the other hand, we have a unique resource, an irreplaceable part of our Canadian heritage. Would it not be better to spend the extra \$30 million on the preservation of this valuable lake for future use than to spend it on unemployment insurance and makework projects on a far more doubtful utility?

In the fifth place, my last, and my most important point in favour of the pumping alternative is that it represents a reversible decision as far as the Churchill River is concerned. Suppose in the future, a change in technology, a change in value judgments, or other presently unforeseen circumstances make it desirable to restore the original situation. All we would have to do is stop the pumping and let the flow take its natural course. I don't say this is a likely situation but remember that we cannot see very far, particularly in dealing with environmental matters or in dealing with a future resource.

So my proposal is that the Government instruct Manitoba Hydro to proceed with the pumping alternative without delay. Much of the preparatory work presently underway will be identical and can continue. In the meantime, the design of the pumping stations can proceed and the true cost can be determined accurately. I consider this essential if only because Manitoba is entitled to a better justification of the flooded shorelines of Southern Indian Lake than the presently unsubstantiated opinion of Hydro engineers. Both Andrew McLellan and the Task Force were wrong in their assessment of the cost of the pumping alternative. I have a few other recommendations, Mr. Chairman, but I'll give them to you.



- III. 11. The level of Cedar Lake was raised 12 feet by the Grand Rapids dam 10 years earlier, leaving a margin of unstable shorelines and dead vegetation that continue to surround the Lake. Floating islands of bog from flooded marshes are trapped in the forebay and towed to embayments.

3.8 CONCLUSION - Dale Gibson

I have pages of points that I've been asked by "The Friends of the Churchill" to make. You, on the other hand, have told me that I have two minutes to make my conclusion. What can I do with those irreconcilable demands? I'll simply read the headlines in my list of conclusions.

The Churchill River System is a system unlike the other hundred thousand lakes that Joe Borowski tells us we have -- unlike them, unique. If it's destroyed, there will be nothing left of it or like it. Secondly, South Indian Lake is a unique northern native community; one we ought to be modelling other northern native communities after, rather than one we ought to be undermining. Thirdly, the Churchill Diversion will wreak havoc in three different areas, all of which are on an enormous scale. Certainly, 250 miles of the Lower Churchill River will be turned from a torrent to a trickle. Southern Indian Lake will be flooded to high levels with all of the destruction and social disruption that you've heard. The Rat-Burntwood system will be heavily flooded with enormous environmental consequences and with social consequences for 1,500 residents of the Nelson House Indian Reserve and another 1,000 residents of the Split Lake Reserve, both of which no one seems to have previously taken into account. Most of these losses are irreversible, at least in a 50 or 100 year time scale. This isn't something one can turn on and off. Once it's done, it's over.

These things need not be done to provide power for Manitoba. There are other ways. All of these other ways must eventually be developed, which is the point that was made in the question period this morning. It's simply a question of whether we begin on the alternative ways now or whether we take the diversion, gain ourselves another four or five years or whatever, along with the resource destruction that it costs. The flooding benefit, based on the only figures provided to the public is in the long run probably only to decrease to cost of electric power to the consumer by 5%. A 5% reduction in a monthly power bill is the benefit set off against all the environmental losses. Many you've heard today but you haven't heard them all. You haven't heard about the archeological losses, for example. Many cannot be given dollar figures and therefore have been forgotten. Just because it can't be given a dollar figure, it can't be forgotten. It's a loss, an irretrievable loss.

Therefore, "The Friends of the Churchill", Mr. Chairman, are putting to you three alternative proposals. We rank them in order of our descending choice. The first is preferable to the third -- all are preferable to what the Government appears to be planning.

The first and most obvious one is abandon the Churchill Diversion. We already have the cheapest electric power, or are among those who have cheapest electric power, in the world. To abandon the Churchill Diversion is not going to make a very significant difference. We will still have the cheapest electric power in the world. If we don't abandon it, it's not a question of not paying for it. It's simply that we will be paying for this Hydro benefit in another way. We'll be paying for it through resource destruction.

The second alternative, less desirable but certainly more desirable than the present, is to postpone the decision for a few years. We've been told it's impossible. That was why we placed a good deal of emphasis on the tie-line proposal. It is possible to buy four or five years, or whatever time might be necessary, to give a more mature final decision. We can do it by way of tie-line to Saskatchewan which may, even in the long run, be cheaper. It appears that it would be cheaper, absolutely cheaper, than going ahead with the diversion now. Even if it turned out not to be feasible, there are other ways of doing it. Thermal plants can be constructed in sufficient time to provide the necessary power. If the tie-line proposal does not work out, or works out to be a somewhat different cost than we expect, it may, in fact, cost us a little bit of delay. Our submission is that this relatively small cost of delay is an insurance premium, an insurance premium well worth the price of keeping our options open long enough to complete the various studies that are now underway about the environmental impact; to see what other developments may occur in nuclear power; to get and save more of the archeological facts, and one can go on, and on, and on.

Let me just point out one final benefit for delaying.

ONE HOPES THAT THE ENVIRONMENTAL CONSCIOUSNESS OF THE PUBLIC, WHICH SEEMS TO BE GROWING AT A RAPID RATE, WILL, WITH A 3 TO 5 YEAR DELAY, HAVE REACHED THE POINT WHERE THE GENERAL PUBLIC WILL BE AS CONVINCED AS WE ARE THAT IT WOULD BE A DISASTER TO GO AHEAD WITH THE DIVERSION.

The final proposal and let me underline that we regard it as an undesirable proposal but better than nothing. If it is absolutely essential to go ahead without delay, then at the very, very least, save Southern Indian Lake. You can, at the very least, save 100 miles of this unique river system by using the pumping proposal that Dr. Booy has reviewed. Yes, it will cost a little more. The cost of the alternative of pumping as opposed to the gravity and flooding diversion, when reflected in the annual or rather the monthly power bill of the average consumer, will be imperceptible. This very small amount would be accepted by the Manitoba taxpayers or citizens without question as a tiny, almost negligible cost of saving 100 miles of a unique river system, and an absolutely unique native community.

Thank you.

4.0 SOUTHERN INDIAN LAKE FLOOD COMMITTEE - Cecil Colombe

I'm one of the Flood Committee. I have listened to pretty smart people here today. I haven't got too much to say but what little I have to say it's worth many more millions of dollars than what Hydro considers spending on South Indian Lake. First I'll say South Indian Lake was a group of people, Treaty Indians from Nelson House, that migrated to South Indian for better living than that at Nelson House for fishing and trapping. It included a number of half breeds who we are living with at the present time. South Indian's Indian are forgotten people by the Indian Department. There was not a house built through the Indian Department before 10 or 12 years ago. When we asked for something such as housing, they told us you're not on the reserve. We can't let you have these things. We built our own churches. We built our own schools so our kids could go to school. We paid our own preacher, an Indian from Nelson House. We built him his own house. Now I'm sorry to say, not that I'm throwing any charcoal to any of you white people, that we have a \$20,000 church at South Indian Lake and a nice cottage with water works in it because a white preacher came to our settlement. This is why I say we are a forgotten people. We built South Indian Lake.

NOW WE ARE GOING TO LOSE THAT LAKE. WE'VE NEVER CLAIMED COMPENSATION. WE DON'T WANT COMPENSATION. LEAVE US WHERE WE ARE. WE MADE A LIVING. WE HAVE THREE GOOD MEALS A DAY OUT OF THAT LAKE.

When they first talked about a flood, they were going to flood Southern Indian from 29 to 32 feet. We cried over it. They know we are ignorant. We've never been to a good school like the boys I've heard preaching today. I wish we had but we didn't have the chance. Anyway, all I would say is that we are against the flooding. Supposing we said, "Okay, go ahead and flood 8 feet today." They'd be flooding another 2 feet the day after tomorrow.

The best thing I can say is just leave us where we are. They were saying we'll move you to another place. We'll put you in Winnipeg, some at Thompson, some at The Pas. What would that give us when 90% of our people never have been to school? What good would they be in Winnipeg or Thompson without skills -- only fishing and trapping? Can you ever make a wolf into a fox or a fox into a wolf? No, never. So the only thing I'd say is just leave us where we are. We are happy down there. If Hydro wants to save millions and millions of dollars that they are talking about spending at Southern Indian and if it wants to save that for other business, you might as well forget Southern Indian Lake and just leave us the way we are. That's about all I have to say.

4.2 BOB BATA

I'm from South Indian Lake. I don't have very much to say. I can't speak very good anyway but I've listened to all the lawyers and professors. They are with us. Their figures, I think, are pretty accurate. I have more faith in them that I do in Hydro figures, or in the Government, Mr. Schreyer or Mr. Sidney Green. I wonder why Mr. Schreyer and Mr. Green are not here today to listen to some of these speakers. Can you give me an answer to that? Why aren't either one of them here?

MR. CHAIRMAN: You'd better ask them.

MR. BATA: I would if they were here. Why don't they come here?

MR. CHAIRMAN: They were invited.

MR. BATA: Well, I don't care. They were invited. Why don't they come? They know they are in the wrong. There are alot of things they are hiding. Mr. McBride is under Mr. Schreyer. He has a man under him who is up there right now. He's trying to get the people up there to ask for compensation.

WE DON'T WANT COMPENSATION. WE WANT TO BE LEFT ALONE. WE CAN MAKE OUR OWN LIVING. I'VE BEEN THERE FOR 51 YEARS. I NEVER HAD ANY ELECTRIC LIGHTS IN MY HOUSE. I CAN GET ALONG MAYBE 5, 10 OR 12 YEARS PERHAPS. MAYBE IN 1 OR 2 YEARS, I MIGHT NOT BE HERE. I CAN GET ALONG WITHOUT ELECTRIC POWER FOR THE REST OF MY LIFE, IF I HAVE TO.

Why do they want to spoil our fishing and our trapping, which they will. They don't talk that way but we know they will. It will take maybe 50 or 100 years to bring that lake back. Why destroy it? It's the last big river we have in Manitoba and one of the last really good lakes. If they flood that lake, there will be no tourists there. They have a road in from Lynn Lake to the Churchill River. If a tourist wants to come in, he can put his boat in the river or around the lake and fish and swim. I have some pictures there too to show the different places to have fun. If they flood that lake, no tourist or fisherman will even put his boat into water like that. He's got to camp. He can't get through the trees. He can't fish. The fishermen can't set their nets. If you ever had a net in the water that had a few sticks in it, you'd see why. The nets will be full of sticks. You'll have to throw them away. The fishermen can't afford that. Why does Hydro want to destroy that?

They don't even want to listen to the arguments against it. If they did, they would be here, at least some of them. I can't understand the Government and the argument of the Government men. They just ignore all these professors and ignore us. Well, I'll put it this way. They say to hell with you people. "We want to sell some power to the United States. I came from the United States myself. I'm a Canadian now. We want to get a few dollars from the States. To hell with Indian Lake. Destroy it. We'll get some dollars. To hell with the people up there, to hell with the country." Why do the Government men take that attitude? I can't understand it. I guess that's about all I have to say.



III.12. Water spills over Missi Falls at the outlet of Southern Indian Lake en route to Hudson Bay via the Lower Churchill. The Missi dam will bridge the banks shown to block as much as 97% of the annual flows.



III. 13. Portage Chute Rapids in the lower canyon of the Churchill River. The channel is over 4,000 feet wide prior to the diversion.

5.0 CANADIAN NATURE FEDERATION - Douglas Pimlott

In deference to your time problem, I will dispense with the preliminary remarks that I had intended to make. I would like to concentrate on the responsibility for the Federal Government in initiating a series of events that has seemed to make this diversion of the Churchill River inevitable. There's a report, which I commend to your Council, by Gunter Schramm, "Analysing Opportunity Costs, the Southern Indian Lake Issue." It was given at the 62nd Annual Meeting of the Canadian Institute of Forestry here in Winnipeg. I attended that conference and obtained a copy. It points out very clearly that the development of the Nelson River was very doubtful in an economic sense. It was only made possible because the Federal Government provided a subsidy. I won't go into details, it's clearly outlined there. So by the provision of the subsidy and not providing one for a thermal alternative, the Federal Government set the stage which led to this position where the Manitoba Government believes that it must go to the Churchill River Diversion. There is a real national responsibility here. The Manitoba Government should set aside its plans to divert the Churchill River. I recommend that the Federal Government provide the funds so that there is an economical alternative in the use of thermal power as a short-term solution.

It is an incredible thing that a decision back in 1966 has led to where we have to destroy, as is pointed out by Dr. Newbury and Mr. Malaher, Manitoba's last great river. There is a direct Federal responsibility. Our organization would be very pleased to establish a national sequence of events by which Canadians would be called on to press the Federal Government to offer the financial support so that there will be no economic disadvantage to an alternative to the Churchill Diversion.

In closing Mr. Chairman, I would like to repeat the statement to your Council which we presented yesterday at the press conference which we shared with the Manitoba Naturalists Society. We deal primarily with the aspects which relate to national events in terms of water developments. We point to our fears of the great buildup in size of the potential environmental consequences that may result from the diversion of rivers. We point out that the first event of this sequence is for the diversion of the Churchill River. It gives the diversion a national perspective. This is not just something which is happening here in Manitoba. This is beginning to happen all over Canada; it's getting bigger and bigger -- just mushrooming in size. This is very serious.

THE FEDERAL GOVERNMENT SHOULD NOT BE ALLOWED TO ASSUME THIS NICE QUIET POSITION AND ACT AS IF IT HAD NO RESPONSIBILITY FOR THE THINGS THAT ARE HAPPENING HERE AND ALL OVER. IT'S ABROGATING ITS RESPONSIBILITY. IT SHOULD BE FORCED TO PROVIDE THE FUNDS NECESSARY FOR MANITOBA TO SEEK AN ECONOMIC ALTERNATIVE TO THE DIVERSION OF THE CHURCHILL RIVER AT NO SACRIFICE WHATSOEVER TO THE PEOPLE OF MANITOBA, IN VIEW OF THE PRE-EMINANT ROLE IT HAS PLAYED IN PUTTING MANITOBA IN THIS POSITION.



III. 14 The headwaters of the Rat River through which the waters of the Churchill River will be diverted. The 30 foot channel in this area must be widened and deepened before stability is reached.

DISCUSSION

MR. GOODWIN: I would like to ask, in view of the testimony that's been heard here today, if it's incumbent on this Council to come up with a recommendation. Am I right or wrong?

MR. CHAIRMAN: That's right. I hope that in about 10 minutes we'll be able to enter into discussion on that subject -- the kind of statement we'd like to make.

MR. GOODWIN: The previous speaker spoke of a Federal subsidy. I'm with Manitoba Hydro. I want to ask him if he is aware that it is not a subsidy. It was a loan. It is being repaid by Manitoba Hydro.

DR. PIMLOTT: Mr. Chairman, I will simply refer to this report by Gunter Schramm. It points out that money was provided to the Manitoba Hydro at about 5 or 6% below normal interest rates. It amounted to very close of a direct subsidy. We could go into all kinds of semantic discussions about this. I commend you to this report. They argue that it's a resource economist who presented this. I do not pretend to have the capabilities but there is no doubt that the subsidy that was provided, through lower interest rates, amounts to close to \$200 million dollars.

MR. CHAIRMAN: Mr. Goodwin, did you want to respond?

MR. GOODWIN: Is the gentleman from Ottawa really aware that the interest rate on the loan that Ottawa gave Manitoba for that transmission line was above the going interest rate at the time it was negotiated. It is not 5 or 6% below current interest rates.

DR. PIMLOTT: Mr. Chairman, I can only refer you to the report. I have said that I am no resource economist. I suggest that you draw your own conclusions from this report. If need be, I would be glad to loan you my copy of it.

MR. CHAIRMAN: We'll make sure to take a look at that report.

MR. GOODWIN: Is the speaker prepared to change the word "subsidy" to "loan", Mr. Chairman?

MR. CHAIRMAN: I think the point that you raise has been noted by the Council itself and that there is some question which we'll check out in the report. He refers to it but I don't think we can necessarily ask him to change his own statement.

SPEAKER: Yes, I think it's important that the gentleman from Ottawa not try to excuse the Hydro from the total responsibility about what they're to do. If the gentlemen from Hydro now do not wish to share that responsibility, but assume the whole of it themselves, they're quite welcome to it.

MR. GOODWIN: Mr. Chairman, without putting a question, can I assure the last speaker that Manitoba Hydro does accept full responsibility for this.

MR. CHAIRMAN: Thank you Mr. Goodwin.

6.0 MANITOBA METIS FEDERATION - Stan Fulham

I'll be quite brief. I didn't come prepared to make a very long speech. I'm here on behalf of Mr. Angus Spence, the President of our Federation, who, unfortunately, couldn't be here this afternoon. The Federation has taken a public stand because it represents some of the native people up north who are vitally affected as you have heard today. We are concerned about the effects on wildlife and concerned about the effects on the environment. We are suggesting, like others, that we stop and take a real hard look at this diversion before we commit a real tragedy and a colossal disaster up north.

One thing, Mr. Chairman, that I would like to refer to at this time is quite relevant. Mr. Dysart was asked why is not the Premier or the Minister of Mines and Natural Resources here. Well, I can tell you the reason why. The Manitoba Metis Federation publishes a newspaper. Its last issue dealt with Southern Indian Lake. We asked for contributions from Mr. Cass-Beggs, Professor Cass Booy, the Honourable Sidney Green, The Honourable Ron McBride and several others. This is what the Minister of Mines, Resources and Environmental Management stated, and I quote: "Despite the fact that the Nelson River program was proceeded with and is proceeding as a matter of government policy, and despite the fact that it has been stressed on many occasions that such policy is not in the process of being formulated, but is rather in the process of being implemented, certain quarters have continued to deal" -- and I presume he includes the Manitoba Metis Federation -- "with this matter as if the decisions concerning same had not yet been made. The Government has indicated, on many occasions, that it would not be involved in the holding of 'window-dressing hearings', concerning a program which has already been decided upon and whose implementation is in progress. To do so would be cynical in the extreme. Such conduct on the part of the previous administration was, rightfully, severely criticized. We do not intend to repeat such a process. On the contrary, we intend to take all such steps as are necessary to make it crystal clear that the decision with respect to these matters has been made by the Government and that the Government intends to accept full responsibility in connection therewith." Of course, this explains the absence of the Honourable Sidney Green. It explains the absence of Premier Schreyer, but it brings up another question, Mr. Chairman.

What is the purpose of this meeting? If the Government is not interested in the recommendations, and they state so here that they are going to proceed nevertheless, it seems to me that this has proven to be a futile exercise.

What this really boils down to, really, is not only a question of a vast Hydro project. It's not only a question of the destruction of resources. It's really a very personal matter. It affects you and it affects me. That's the only way I can look at this problem. The experts, who have studied this matter say that it will affect me to the extent of about an extra \$1.50 to \$2.00 a month on my Hydro bill if they do not proceed with the diversion. I am quite prepared, as a citizen, to pay that price, so as not to gamble on the destruction of Northern Manitoba and the destruction of our wildlife.

I would guarantee this Government that, if they took a referendum in this Province tomorrow, they would find that the vast majority of Manitobans are so inclined. If there is going to be a meaningful decision on this matter, there must be an informed public. The public is totally uninformed and, therefore, cannot make a meaningful decision.

This Government came into power principally on the basis that the previous Government was putting through the flooding of Southern Indian Lake. They have had four years to carry out an in-depth study to determine exactly what damages would occur up North. This they have not done. Today they cut off all discussion on this matter. This is a breach of their responsibility.

Now how do you get to the people and inform them? I have talked to a number of people about this. I have talked to my neighbours. Some people in Manitoba don't even know where Southern Indian Lake is and care less. They care less about the native people. They care less about ecological damages and the destruction of our wildlife because they are uninformed.

THE MANITOBA METIS FEDERATION SUBMITS THAT THE REASON WHY PEOPLE ARE DISINTERESTED AND ARE NOT TAKING ANY ACTION IS BECAUSE THEY ARE NOT INFORMED. THE GOVERNMENT HAS CLOSED OFF ALL AVENUES OF DISCUSSION ON THIS MATTER. THERE ARE MANY QUESTIONS THEY HAVE NOT YET ANSWERED. THEY HAVE ADMITTED, IN SOME CASES, THAT THEY DO NOT HAVE THE ANSWER. SINCE THEY DO NOT HAVE THE ANSWER, IT IS PROBABLY BEST TO CLOSE OFF DISCUSSION AND THEREFORE SAVE THEMSELVES A GREAT DEAL OF EMBARRASSMENT.

I would suggest, in conclusion, Mr. Chairman, that this Government would put their advertising money to far better use to tell us something about Southern Indian Lake than to tell us that we might get \$5.00 or \$10.00 back on our education tax. We have come full circle from a position of unknown, four years ago, to the same position. This is the tragedy. We don't know.

Thank you.

MANITOBA LIBERAL PARTY - Izzy Asper

I thank the Council for holding these hearings. I thank them for having invited all political parties to express themselves. I regret very much that the Minister found it necessary to exclude Government people from appearing and answering questions. I'm not able to understand the reluctance of the Progressive Conservative Party to state its position but that's something that it itself will have to deal with.

As your Chairman says, this is very much a political issue. It will only be decided politically. I appear here with a sense of shame that it's necessary for a member of the Legislative Assembly and a leader of a political party to have to take his case to you rather than have it debated where it belongs, in the Legislature. I damn any Government, Liberal, Conservative or New Democrat that has taken the autocratic position that we, the elected people in this Province, are denied the right to cross-examine and to debate the very issue that you, in this kind of a hearing, have to deal with.

The position of the Liberal Party goes back to 1966 when we opposed not only the development of Churchill Forest Industries in The Pas but the entire Hydro project. That was our position in the Legislature. As you know, in 1968, the previous government, the Conservatives, came forward with the diversion plan and the 30 foot flooding level. We believed that the Liberals and the Conservatives went to the people in the 1969 election on the platform that the project would be arrested; that it would be re-thought; that it would be re-examined and that sanity, as opposed to political stubbornness, would prevail. That is the misleading set of circumstances that lead us to today's hearings because the Government betrayed the confidence of the public in 1969 and refused to hold any kind of hearing.

The position we took in 1969 was to stop it. We were operating intuitively. Today we no longer are required to operate on a gut feeling that this is madness. I'm here to appeal for help. I make no bones about it. I'm not ashamed to ask for the help of any group in this Province who will arrest the insanity to create a gigantic bog, a quagmire, a sewer in one of the most beautiful areas of the world. I speak from having travelled in 35 countries.

I tell you this. If this occurred in the City of Winnipeg, there would be thousands of students and thousands of members of the public protesting in the streets. But it's in a remote area that our education system has failed to even tell us about. This is a severe indictment of that system. At 107 high schools last year, I asked our students, "Do you know anything about Southern Indian Lake? Do you know anything about the magnificence of the Churchill River system? The answer was no because our system would rather teach Greek mythology or ancient British history than what's up in Manitoba. So, it is a damnation of our own education system that leads us to the morass in which we find ourselves.

We oppose this project on six grounds:

1. There is now technological and scientific evidence to show that it is premature -- that we have lots of time. Technology is developing new approaches that may negate the necessity of any further development through the Churchill Diversion.

2. The entire process is anti-civil-libertarian; there has been a massive violation, a massive assault, on the fundamental rights of ordinary Manitobans. I'm not only speaking about the community of South Indian Lake. I'm speaking about me. You and I have an inherent right to the enjoyment of our environment. I said in a statement on December 14th that we propose to bring to the courts the issue of whether I can sue this Government, as I intend to, to stop this on the sole grounds that as a class Canadians, Manitobans, have the right to the enjoyment of our environment and cannot be deprived of it except by due process of law which is legislation and not Order-in-Council which is what's happening here.

3. The profession that I have adopted, politics and public life, has been assaulted by the flagrant abuse of natural justice -- the refusal to hold hearings. We in political life do not want the condemnation of future generations which we will have earned, unless we come to meetings like this and say, "Help us. Help us stop this."

4. We now have, for the first time, economic statements that render doubtful the viability and the wisdom even for those who are concerned about the "bucks" of the whole project.

5. The legality of this whole mess is in doubt. Surely it cannot be legal for a Government to flood 300 square miles of Manitoba, starting from Portage and Main, or starting at Missi Falls, or starting anywhere, without some legislative sanction. It can't be legal. If it is legal, God help us. We need a new Bill of Rights.

6. I'm not going to go into the environmental issue because you know it better than I. We ask you to instruct us. I stood on the banks of the Churchill, not 3 feet from the Premier of this Province, admiring the pristine beauty of that system. To hear suddenly that it is no longer an asset worth preserving makes those of us who have been to Southern Indian angry.

So, we issued a statement this morning and we ask you to take it into account in your deliberation; that it's our last great river; that it has massive tourist potential and massive recreational possibilities; that there are civil rights issues that are fundamental; that because the resources that are about to be destroyed have not even been catalogued or evaluated. We have called for a full halt. That's not new because we did that on December 14th. It yielded no political results.

I heartily agree with the previous speaker who said that the Government is spending half a million dollars of your money to tell you that it's giving you back \$100 of your money in tax rebate. However, it is not telling the public that it will cost every Manitoba family about \$1,000 and that's a minimum estimate of the ecological and resource damage that's involved in the project according to our figures. If I'm out by half, it couldn't matter. Rather, I may be out by double, but I'm not being liberal in my figures. I'm being very cautious in those figures.

IF IT WAS THE RED RIVER THAT WAS GOING TO DESTROY SOME HUNTING LODGES, YOU'D SEE THE PROTEST. IF BY RUNNING THE CNR/CPR YARDS THROUGH TUXEDO WE WOULD SAVE 25¢ PER MONTH ON OUR TRANSPORT BILL, I DON'T THINK YOU'D SEE THIS HAPPENING. IF BY USING CITY PARK AS A GARBAGE DUMP YOU COULD SAVE 25¢ A MONTH ON YOUR GARBAGE BILL, I DON'T THINK YOU'D SEE CITY PARK DESTROYED. BUT BECAUSE IT'S THE NORTH, BECAUSE THERE'S NO ONE TO SPEAK FOR IT, BECAUSE IT'S ONLY A BUNCH OF INDIANS ...

Well, 70 years ago we bought 2/3 of Manitoba from them for \$30,000. Maybe this time we'll give them about \$3 million and they'll go home.

We are witnessing an outrage, so much so that I'm prepared to put aside my political position. I'm urging and I'm appealing to you to help us. We are putting our political life on the line on this issue. We announced this morning that the public of Manitoba must be informed. The public must get a chance to vote on this issue. So we are making this the June, April, May, 1973 election issue. We are saying that if the Liberal administration is returned that this project will be stopped; that there will be full hearings; that all the alternatives will be examined; that we will proceed in those hearings on the premise that the project is not wise and that unless there is overwhelming, massive evidence to the contrary, the project will be stopped. We say this because we want you to know that you are not in an environmental issue, you are in a political issue. I, as I say, am prepared to put my political fortune on this issue. We ask you and all Manitobans to do the same thing. Don't go out here and say, "Well, we had a good hearing." You and I have a heavy responsibility to future generations. Let's not see it abrogated.

Thank you.

8.0 DISCUSSION - Lloyd Axworthy

It's now about ten minutes past four. There were two or three other gentlemen who wanted to present briefs including Mr. Emberley and Mr. Ternette. I've asked them if they could submit their written briefs to us. It will go as part of the documentation to the Minister. [Not included here - eds.] I would like to remind you that the next portion of this meeting which will be deliberation by the Council concerning our position or stand is open to the public, but we would ask those who are not Council members not to participate. They are welcome as observers but any discussion or debate is restricted to members of the Council.

We have had a very full day of presentations. Let me begin by underlining that word "presentations." We have to be very careful to indicate this was not a hearing because hearings were not supposed to be held on this issue. This is a series of presentations to this Council so that it could exercise its mandate which was set forth for us by the Government. It is to provide advice and recommendation on environmental matters to the Minister and to the public. We can't consider that we have held formal hearings. Nonetheless, I think a good deal of very informative material, commentary, and critique has come forth. It's now really up to this Council to try and come to some agreement, if there is one, on the kind of recommendation it would like to make to this Government on the Hydro proposal for the Nelson and Churchill River development program.

As I said earlier, the problem is somewhat complicated because the Government has already passed an interim license to Manitoba Hydro, giving them the full right to proceed. Therefore, it may appear that any action we take is a little too late. However, I would suggest in response to some of the questions that were raised earlier about that role or purpose this Council can fulfill, partially that's for us to determine. This is a new Council. This is really the first substantial issue that we've got into. We have to plot our own course and stake out exactly the kind of direction that we want to take. Certain things are very much open to us. Obviously, we can still comment on the advisability of the program itself and determine whether we think, from the environmental point of view, the decision that was taken was the right one. Whether that would have an effect upon Government policy, none of us has any way of determining.

I think, secondly, and just as important, we have the role to inform and make the public of this Province better aware about environmental matters. Part of that purpose has already been fulfilled today because we have given opportunity to a number of people to present their case. We, as a Council, have the requirement to let our own position be known, so that other citizens of this Province can see what a cross-section of their fellow residents feel about this particular matter. That in itself is very important. When you don't know very much about a highly complicated or technical matter, you can only use the jury system to rely upon the wisdom of your peers. So, in effect, we are acting as peers of the general public and, therefore, we have a very deep responsibility to try and make some sense of what we heard today, and come to some conclusions about the kind of statement we would like to make.

The scope of action is open to us. We can make a statement. We can prescribe further action for ourselves. We can provide for further direction or guidance to the Government, if we think that's required. The response that it evokes is purely and completely out of our hands. It is our responsibility to do those kinds of things. I would suggest that for the remainder of the session, we first open it up for comment, for those who would like to express a point of view as to what you think we should be doing based on the evidence you have heard. Then, we will try, near the end of the meeting, to come to some resolution or proposition.

MR. JIM CAULEY: I'm Deputy Minister of Mines and Resources and the Environment. I understand that there has been an impression left here this afternoon that the Honourable Sidney Green had an invitation to attend this meeting and that somehow or other he had declined. I would like to correct that impression. The Honourable Sidney Green was not asked or invited to attend this meeting. Certain members of the staff were invited, but not Mr. Green. What I am saying will be corroborated in a letter, sir, to your Vice-President, Mr. Arenson that Mr. Green wrote to him. I just wanted to correct that and I would like it on the record.

MR. CHAIRMAN: Mr. Cauley, we do have a copy of the letter that was sent and the interpretation given to us by Mr. Arenson was that he said that no member of the ...

MR. CAULEY: Am I wrong in understanding that there has been an impression left here that Mr. Green had declined an invitation?

CHAIRMAN: I don't have a copy of the letter with me because Mr. Arenson has it and he's on his way to Montreal at the present moment. But he said this morning while discussing the letter that no member of the Government would be here.

MR. CAULEY: No, I don't think so. That is not correct sir.

CHAIRMAN: Well, I can stand corrected. I don't have a copy of that letter. Do we have one here? Perhaps I can take a look at it.

MR. CAULEY: In that particular letter, there was an open invitation that Mr. Green would be pleased to meet with the Council at any time and answer any questions.

CHAIRMAN: Let me peruse it quickly. I can only say, Mr. Cauley, that we were simply working on the interpretation that Ken Arenson gave us. I've asked our Secretary to read it and when he comes up with that, you will have it.

MR. BRIAN HODGSON: I'm just wondering why Mr. Green would have to be invited. He was the one who started this Council. He invited us to report to him. Should he have to be invited? Wouldn't he just be welcome to come and realize this himself?

CHAIRMAN: Yes, I think that's a point that is also well taken.

MR. CAULEY: I don't want to get into debate on this particular question, sir, but in answer to the present speaker, the Minister felt that the recommendations from the group here should be independent recommendations. Now if he is sitting in and arguing the case here, what you recommend, in itself, cannot be totally independent. Now I think this is the way, although I can't speak totally for Mr. Green, how he has interpreted it.

CHAIRMAN: Yes, that's a well taken point that as advisers to the Minister it would be a little awkward and perhaps not in keeping for the Minister himself to be here trying to influence that advice. So I think that the interpretation that Mr. Cauley gave is quite correct. It's worth stating. We'll try and get an interpretation on this letter as soon as we can. Alright, can we open the floor up then for comments? Let's get back to what kind of advice you would now like to present.

MR. BILL HANNA: Do you require to know the representation? I'm with the steelworkers up there. I think we have sort of a rule here that it's the individual viewpoint that you want as a member on the Council rather than anybody bringing in the view of a certain organization. I hope that you hear, within a short length of time, from all members of the Council because we're in a position now where if we're silent we could consent to something that is happening. In view of the evidence and the testimony that I've heard today and speaking as a northerner, I've got to recommend that they halt this project. If someone is against that I hope we hear from them. I'll put it this way without taking up anymore time. We have an obligation to the people of Manitoba, we have an obligation to the Government, and we have an obligation to the Council itself. A Government is looking for us to advise them and the only way we can show it is by coming out with a strong recommendation.

MR. L. J. STECHESN: I'm representing the Manitoba Association of Architects. I'm also an architect for Leaf Rapids Town Centre. I find it rather ironic that we are on one hand with Leaf Rapids trying to preserve ecology as the motivation for the development of the town. Not far downstream, they are talking about devastating ecological damage. I would urge that we make a very strong statement condemning the diversion. I would also take it upon myself to urge our Council along with the Architect Association to present a statement to the Government condemning the diversion.

MR. J. F. PALAMARCHUK: I have to speak from the standpoint of a concern of the people as I understand them in my area but more so from my own personal convictions. We have been charged with a responsibility to study, garner information, regarding all issues in the environment. Then, we have an obligation to report to the Ministry. That obligation still stands as I understand it. At least I'd like it to stand. This issue, no doubt, is very, very hot politically. It's getting hotter every minute. I don't regret that because after all it could have been expected. But we still have an obligation as an environmental council which is a non-political body only deeply interested in the issues of environment. On these issues we've got to make up our minds and advise the Minister whether he likes it or not. I'm still going to advise him personally, if I have to. It is incumbent on us to come out with a statement from the Council as such, regarding the diversion of the Churchill River -- whether we are for or against it and give him our reasons why we take this stand. We should do this, Mr. Chairman, today, before we adjourn.

DR. BILL PRUITT: I would like to see us come out with a resolution. I have sketched out four areas of the resolution and two areas of a preamble. This is not intended to be a formal presentation but just for discussion of these areas. I would like to recognize in our preamble that the problem is not of Manitoba Hydro's making but of our growth ethic that is implicit in our present societal value. I would like the preamble also to contain a recognition of the political implications of the whole situation, not only in regard to the life of the present Government, but also to the future life of the Manitoba Environmental Council.

The first of the four points that I would like to make is that there would be massive and unacceptable environmental and social changes in the project as presently envisioned. The second point is that alternate schemes are possible. The third point is that massive savings in power consumption are possible in relation to more efficient uses, particularly in building construction and human lifestyle. There are some very interesting recent studies showing that savings of up to 80% can be made in home use of electricity, without loss of amenities, and savings of up to 35% in building construction and maintenance. The fourth point is that we recommend that the project be stopped, re-evaluated, and discussed fully and publicly, and no decision made until all power savings possible have been made, and all the alternatives have been evaluated.

CHAIRMAN: As a result of your comment, I was reminded when Dr. Cass Booy was speaking of the high mortality rate of environmental chairmen in this Province and I think your point is well taken. Is there further comment on this issue?

MR. HAROLD WALLACE: I represent nobody so I have no axe to grind. I support the previous speaker and all the remarks he made. We have had tabled a great deal of information. I'm wondering if I will ever get a chance to read it. What are we going to do with that? I think that should be discussed too.

CHAIRMAN: It seems, at least from the comments thus far, that most speakers are indicating they would like to pass a resolution against the proposal. As a matter of procedure, we could have a resolution or some indication of that and then deal with the wording of it. Dr. Pruitt had some preambles and some statements already worked out which we could accept as a resolution and then vote. Then we could worry about the amendments or the refinements, if you like, unless someone has another alternative statement that they would like to present. Or would you just like to vote on the principle that, in fact, this Council is basically against the proposal and then we can add amendments? I'm really open to two or three courses we can follow and I'd really welcome your instruction on that.

MR. BRIAN HODGSON: I don't know whether I'd want to call this an amendment or a resolution but it seems that the general consensus of this meeting is that the diversion should not go through. I'll stand corrected if anybody wishes to correct me. If it's not the desirable method of producing the required energy for the future development of Manitoba, the various alternatives should be looked at more closely including the tie-in with Saskatchewan Hydro. I'd like to see a newsletter or a notice placed in the papers, stating the various possible alternatives and have a reply letter form part of this so that the public could reply. In the first place, have the letters returned to us to see how they are going. Then, have us forward the letters to the M.L.A.'s so that not only will it be ourselves who are approaching the Government but the Members themselves. We would have statistical proof that these are the numbers of people who are in favour of it or against it and fighting for us.

CHAIRMAN: Just to restate that then, are you submitting a resolution formally that Mr. Bloy could take? Do you want to read that out then?

MR. HODGSON: The general consensus of this Council is that diversion of the Churchill into the Nelson is not the most desirable method of producing the required energy for future development of this Province. A closer look at the various alternatives, including a tie-in with Saskatchewan Hydro, and progressive development of the Nelson, and then the Churchill Rivers should be considered. Also, in every newspaper in this Province, letters should be contained within a notice directed to the M.L.A.'s of the area covered by the paper. This notice should try to ascertain whether or not the public desires a diversion and what are their prime reasons for their feelings. These letters, resulting from the notice, should be returned to the Council for statistical count and then forwarded to respective M.L.A.'s. By this method, it would not only be ourselves, as a Council, but the M.L.A.'s as well who would have to force the wishes of the people on the Government.

CHAIRMAN: Alright then. That motion really has two parts. One is to propose that we advise the Government to stop the diversion and look at alternatives. Secondly, as a Council, we would take advertisements in papers containing within it, I suspect, a return letter or reply, which could then be counted. The only problem is someone would have to pay for the ads in the newspapers. I'm not so sure that we could ask the Government to pay for them. That's merely a small technical point but maybe an important one. Now that's a motion. I'd like a seconder for it and then we can debate that motion. Is there someone who would like to second that motion? I would like to have a seconder before we debate.

SPEAKER: There is a prior motion on the floor.

CHAIRMAN: No, Dr. Pruitt didn't submit it as a motion. He suggested it really as a guideline. We might incorporate them. That really wasn't a motion. Would someone like to second Mr. Hodgson's motion? Okay, we have a seconder.

SPEAKER: May I move an amendment?

CHAIRMAN: By all means.

SPEAKER: As an amendment to the motion, since it is really in two parts, I'd rather replace the first part with the statement made by Dr. Pruitt, because it more elaborately deals with the fundamental issue. The second part of the motion really deals with the question that you raised of information and our responsibility to inform the public of how we feel and what we think ought to be done about it. So, if the mover of the motion has no objection, perhaps the first part which deals with the attitude of the Council could be replaced by the more comprehensive statement prepared by Dr. Pruitt. Then the second part dealing with informing the public could be left as it is.

CHAIRMAN: The statement by Dr. Pruitt is that there was a preamble that recognized the problem is not a problem of Manitoba Hydro but of the growth ethic implicit in present societal values and that we also recognize the political implications of the situation not only in regards of the life of the present Government and also to the future life of the Manitoba Environmental Council which is maybe providing a reminder we don't want to remind them of. Therefore, we would recommend that we stop the diversion because of the massive unacceptable environmental and social

changes, because there are alternative solutions possible, and because massive savings in power are possible in relation to more efficient usage. We recommend that the project be stopped, re-evaluated and discussed fully and publicly and no decision made until all power savings possible are made and alternatives evaluated. It may not be a full rendition of your writing Dr. Pruitt.

DR. PRUITT: Is it legal for me to move acceptance of this?

CHAIRMAN: We already have a motion accepting it. It's really whether Mr. Hodgson would like us to incorporate parts of this statement as part of his motion, other than the preamble. So that would be fine. We would include some of the statements related to the fact that the alternatives would be unavailable and we could incorporate that as part of the motion.

DR. FEDORUK: I don't think it's been put to the floor yet the stand the Council is going to take on the issue. Everybody has presumed that it is inherent in the resolution but I think we have to go back to the basic question. Does the Council endorse or oppose the diversion? If the answer is yes, Council is going to oppose the diversion, I would suggest that the Executive formulates in precise words exactly what form the resolution should take rather than hassle it around at this meeting. Do you agree that we have to go back and establish that formal point?

CHAIRMAN: I would assume, however, a vote on this motion would indicate whether, in fact, there is agreement or not with it. That would be the easiest way of determining that. I do agree with your recommendation, however, that perhaps the precise wording might be left either to us or some chosen body from this meeting, to put in precise terms, which we would then transmit to the Minister. It's something that we can certainly consider. So here is where we stand now.

We have a motion of somewhat mixed parts but basically it says that because there are alternatives available and because of the serious environmental damages and because there are real problems in terms of the way that we approach the question of power in our society, we therefore suggest that the diversion be stopped until those alternatives can be examined and the question of the savings on power uses can be examined as well. Now that indicates in fairly broad terms whether, in fact, this Council is for or against the present program to divert the Southern Indian Lake/Churchill corridor for power purposes.

If there is no further debate, we could vote whether you agree in principle on the question contained in the motion. Then, we can decide how we are exactly going to word it and what procedures of the Council we can follow. Are you ready for the question? The motion is, in very short form, that this Council go on record as being against the present policy of the Churchill River Diversion. All those in favour of that motion, please raise your hand and we'll do a full count. [26] All those opposed? There's 1. Alright, that motion passes by a count of 26 to 1 of remaining members of the Council. We will then transmit that message to the Minister and the public.

Now, do you have any suggestions you would like to take as a Council in proceeding with this? There was one recommendation that we take out a newspaper advertisement with a return coupon in it so that people could indicate their concern. I would also indicate that one of our hopes, in our application under the local initiative program and the PEP program, would be that those field workers themselves might take

an opinion survey on environmental matters. So, in fact, the question that would be developed and aired would, I think, contain some of the same kind of information. There may be some question of a budget but if you want us to proceed and see if we can get a newspaper advertisement, I'm quite prepared to do so.

SPEAKER: I don't know where our funds are coming from other than from the Government.

CHAIRMAN: That's right.

MR. HODGSON: This was not meant to be a resolution, but a question. If it has gone into a resolution, that's fine.

CHAIRMAN: Okay, well, Mr. Bloy suggested, if you withdrew it from the resolution that we might determine ourselves how we might best transmit it. First, we might submit a press release asking for those who concur with it to write us at Box 139 which might not be the most effective step but it might be all we can do at the present moment.

MR. HODGSON: If that's the only way it can be done, fine. I'll withdraw it.

CHAIRMAN: Yes, I think, in my judgement, there's no point in pressing a sore point.

MR. HODGSON: Okay, fine. I'll withdraw the last half of my resolution.

SPEAKER: I have a question. We are to submit our findings or our decision to the Minister, are we not?

CHAIRMAN: That's right.

SPEAKER: Are we at liberty also to submit them to the public or do we wait a decent interval for the Minister's reply before we go to the press?

CHAIRMAN: We have members of the media in attendance and, therefore, the decision we take will be at least reported. That would be the first step. We could also issue a statement or a copy of the letter that we send to Mr. Green. We would issue that publicly as well.

SPEAKER: Since the press are here it might be better if the Minister learned of our decision before you release it in the Free Press tomorrow.

CHAIRMAN: We, as I have pointed out, have to find our own way as a Council and the procedures we want to follow. We will, however, transmit a letter to Mr. Green at the first available opportunity containing this resolution. Are there other steps that you would like to undertake? One question to consider is whether to provide further public information. We have received very valuable documentation today. Is it worth putting that documentation together and at least making it known to other public groups that it's available? Should we make it known that we could put them in contact with groups that could present it to them. I think that's a pretty good goldmine of resources.

SPEAKER: I notice that a crew was here today televising the proceedings. Is it conceivable that a program may be made for television, a public information program, long enough so that these speakers may be heard in a continuous program? It would be very effective if even a portion was shown for a continuous period of television. I noticed it was all filmed.

CHAIRMAN: I certainly agree with your sentiments. I'm not so sure that we are in a position to dictate to the CBC what kind of programming they should undertake.

SPEAKER: Is it possible to discuss it with them?

CHAIRMAN: We could certainly do that.

SPEAKER: I've long ago learned, however, the CBC is just about as intractable as most other government agencies.

MR. HENTELLEFF: Mr. Chairman, you made a point about the amount of information to be made available. Because of shortage of time, a number of people who wished to verbalize their presentations weren't able to. Since we invited them and they took the time to come but weren't able to express themselves vocally, we owe it to them to publish it. Secondly, having received all this information, we should gather it together and publicize that it's available to whomever wishes it. In addition, we should take whatever steps the Council feels appropriate as part of its public responsibility. As you are aware, it sometimes has a dual responsibility, one to the Government and one to the public. The Executive should be charged with the responsibility by the Council of taking whatever steps are appropriate in its responsibility to the public generally in respect to this issued.

CHAIRMAN: Could you be more explicit, Mr. Henteleff? Are you saying that you want those papers edited? We will pull the papers together and include them as part of the message that will be submitted to Mr. Green.

DR. FEDORUK: Is he suggesting that the Manitoba Government undertake the expenses required to transcribe it and put it into a neat package? At a previous meeting, it was indicated by Dr. Bowen, I think, that for expenses of this nature, once they were identified, that the Manitoba Government would undertake them. Do we need a motion to suggest to the Government that this particular issue be wrapped up in a package and they underwrite the expenses to do this?

CHAIRMAN: Would you like to make that motion?

DR. FEDORUK: Consider that a motion.

CHAIRMAN: If that's a motion, I can only say that we would do our best to suggest to the Minister that it be done. His response again is totally his own business. The prognosis may be one that I wouldn't want to make. However, that's a motion. Is there a seconder for it?

SPEAKER: I don't believe we need a motion on this. We have a commitment in our minutes that the Government would supply secretarial assistance and help. However, if you wish a motion ...

CHAIRMAN: Yes, I think that the agreement we have thus far from Mr. Green and the Department is that they will supply us with secretarial assistance, stationery, and so on. However, I don't think we yet have a budget for publication. If it's considered important to make these papers available and if this Council wants us to represent to the Government on that point, I'm quite pleased to do so. Can we have a seconder? Dr. Pruitt.

DR. PRUITT: I find records of previous encounters such as this are extremely valuable personally in teaching a course; for example, the records of the Rampart Dam situation in Alaska and the Skagit Valley in British Columbia. I anticipate that the documentation of this in the future will become another classic case. It might also be of considerable value in the political history of Manitoba.

CHAIRMAN: I'm wondering if you will allow me to take some discretion and make a slight amendment. If it's not possible for the government services to do the editing then, we may go to others, such as the University, to see if they are interested. I wouldn't like to speak for any University but I know there are some who are interested in this issue. They may be equally as interested in the public record and be prepared to take care of the editing and dissemination of these.

SPEAKER: My earlier suggestion, Mr. Chairman, wasn't only in respect to these papers, but as part of our larger responsibility to the public. In addition to gathering these papers and making them available, I suggest that we take whatever other steps are appropriate to the collective decision of the Council, drawn from every part of Manitoba which is that it's opposed to this diversion. I further suggest that the Executive be empowered to take whatever other steps are appropriate for the purpose of appropriately advising the public of our decision.

CHAIRMAN: Okay, we have the message. So the motion before you now is, considering the record of this meeting and the papers that are included in it, that we will seek to gain some form of publication, either through the support of Government or other bodies. Mr. Keleher, did you have a comment?

MR. KELSEHER: Thank you, Mr. Chairman. Although not a member of Council, but as your Acting Executive Secretary, may I make a couple of points now that you are talking about collecting the record together. As I understand it, the offer of secretarial assistance to the Council at the moment really only entails sending out notices and setting up these meetings. As I look at the proceedings of today's presentations, it is really quite an extensive undertaking to get this material together as anybody that has every edited anything will know. So I would say, if the Council feels that it wants this material brought together in a form suitable for publication, that it should first of all make a definite motion to that effect. The Council will then ask the Minister if it is within the resources of the Department, within Dr. Bowen's division, to accomplish its ends. But it really is quite a job, as you may well imagine, to work on this and you must go back to the Minister with this.

CHAIRMAN: Yes. I thank you for those words of advice. I think that particular message is contained within the present motion. We have a motion now that we do seek some collection of the records and papers and their editing and dissemination, either through government support or otherwise. All those in favour? Those opposed? That motion is carried. We will seek to do the best we can. Are there any further steps that you would like to take on this particular issue relating to our discussion this afternoon.

DR. FEDORUK: I have one more comment here. It has been sort of implied in our terms of reference that we are supposed to be representing the people of Manitoba on environmental issues. We have taken a stand here today by formally accepting the fact that we are opposed to the diversion. Now how do we go about reporting to the people who we supposedly represent?

CHAIRMAN: It was indicated at the beginning that we are simply an Advisory Council that was set up by appointment of the Minister of Environmental Management representing a cross-section of organizations in the Province that are concerned about environmental matters, as well as a cross-section of independent business. We represent no more than that. We are simply a collective group of volunteer citizens who are concerned about these matters and are working under a set of references that we, ourselves, passed at our last meeting. All we can claim is that we were asked to join this Council because of some prior interest in environmental matters. The one thing that this Council does have is a very important cross-section. We did a calculation concerning the membership throughout the Province and found that with one or two exceptions the membership is proportionately representative of the population of each of the 89 population divisions of the Province. There is certainly also a fair degree of representation of different organizations. So that's all we can claim and that's what we are -- not much more than that. We have to be modest at the same time and say that's all we've got right now.

I would use that, if I may, as a jumping-off point to say that one of the important needs of the Council is to strengthen the membership. We held an Executive meeting today to try and develop some Rules of Order concerning membership, including expansion and recruitment of new members. We are organized on a regional basis and it's very incumbent that in each of the regions of the Province a tremendous effort go in now to start examining not just the big issues like the Churchill River Diversion but the issues that relate locally, whether it's in Portage la Prairie, Thompson or Winnipeg. Then, those kinds of issues which are of local community importance and which effect the environment can be discussed in your own regional committees and transmitted to the next Council meeting, again for further advice, either to the Government or whomever is affecting the environment in a negative way. Without that kind of initiation on the part of the individual regional committees, we don't work very well. Really, we rely upon the kind of energy that you can bring to bear on environmental concerns. Some of the Regional Committees have already started holding meetings. The group in Winnipeg has held a couple of sessions on environmental matters relating to the City. So I would urge you to get back to them, examine issues and start recruiting other members.

We have an agreement from the Minister that recommendations made to him for new appointees to Council will be received and he will carry through on that. So we do have a lot of options open to us to expand the work of this Council and to certainly strengthen its membership.

I didn't want to make a speech but you gave me the opportunity so I thought I'd take it. If there's no other matters then relating directly to the issue of Churchill River Diversion, I would suggest that any new business be put off for the next meeting of Council. We've had a very long day. I hope it's been a very fruitful day.

SPEAKER: I would like to suggest a recommendation from this Council for the Government to consider that there is a growing concern in the changing values of our environment. There are more people than ever before that look at materialistic gains as secondary to the other values. This is a growing thing. We should point out to the government what we have observed. We want to bring their attention to that. Don't let them discount the value of that one.

CHAIRMAN: It's a point well taken. We will certainly include that as part of the motion. That was part of the principles that Dr. Pruitt indicated and we will certainly emphasize that fact.

MRS. ROSEMARY MALAHER: Did we make any decision for a formal press release or are we going to take what comes?

CHAIRMAN: I think, unless you want to modify it, what we will do now is draft up the resolution in as close to Queen's English as we can obtain and send a letter to Mr. Green carrying the import of our decision. Then we will issue a press release with the gist of what was in it. I don't think we will add anymore frills than that.

MR. RICHARD KLASSEN: I wonder if it isn't important for the Council to get in touch with the appropriate Federal Department as these developments are generally a Federal/Provincial cost-sharing project. It appears from listening to Dr. Pimlott that the responsibility for this Churchill Diversion has much to do with the fact that the Federal department specified that the funds would be made available for Hydro electric power. That's very important. Had that not been specified, perhaps this Government or previous Governments would have taken an altogether different look at this.

CHAIRMAN: Would you like to make that a motion Mr. Klassen that we transmit our message to the Federal authorities?

MR. KLASSEN: I make that a motion, yes.

CHAIRMAN: Secunder?

SPEAKER: I'll second it and I'd like to add that it be directed also to the Department of Environment in Ottawa.

CHAIRMAN: Fine, we'll do that then. All in favour that we also transmit this message to the Department of Environment? Okay. All those opposed? That's carried unanimously. Are there any other further issues? Would someone then like to make the appropriate motion to adjourn? Yes, Dr. Pruitt?

DR. PRUITT: I feel rather strongly that I would like in addition to the normal thanks as that the Council express sincere thanks to our visitors who came here, particularly from Southern Indian Lake, from Nelson House and also Dr. Finlayson from Toronto.

CHAIRMAN: That's a point well taken. I've found it to be really a very fascinating day from the point of view of a good opportunity to hear a range of opinions expressed both from the gut and from the cerebral top of the head. It really has been a very good illustration of what this Council might be able to do even more extensively in the future. Now can we have a motion? Mrs. Malaher moved adjournment. Secunder? All in favour? We'll see you in about two month's time. Thank you.

ADJOURNMENT

COUNCIL'S RESOLUTIONS

(Excerpt from Council's Annual Report One, 1973)

The Council held a special meeting on January 19, 1973. Its purpose was to hear presentations on Manitoba Hydro-electric developments with special reference to the Churchill River diversion. The program was organized by the Vice Chairman, Mr. Arenson who solicited presentations from possible contributors. The meeting was held in the Legislative Building and attracted considerable publicity. Presentations were made by Manitoba Hydro, Friends of the Churchill Committee, South Indian Lake Flood committee, Canadian Nature Federation, Manitoba Metis Federation and I.H. Asper. No presentations were made by the Department of Mines, Resources and Environmental Management on instructions from the Minister because, as he stated in a letter to Mr. Arenson, all information which had led to the Government's decision had been made public and was therefore available to the Council. The Minister further indicated that he would like it clearly understood that the meeting was not called at his initiative or that the Council could help him with respect to this hydro-electric program. Nevertheless he felt that the Council and the other citizens of Manitoba should have the fullest possible information regarding the program.

The meeting concluded with a Council discussion of the presentations and the adoption of the following resolutions, which were forwarded to the Minister:

THAT THE COUNCIL WRITE THE MINISTER, HON. SIDNEY GREEN, ADVISING HIM TO STOP THE PROPOSED CHURCHILL RIVER DIVERSION UNTIL SUCH TIME AS PROPER STUDIES ARE COMPLETED AND ALL ALTERNATIVES ARE FULLY AND PUBLICLY EXAMINED.

THAT THE COUNCIL REQUEST FINANCIAL HELP FROM THE MANITOBA GOVERNMENT TO HAVE THE PRESENTATIONS WHICH WERE PRESENTED AT THIS MEETING, EDITED, PUBLISHED AND MADE AVAILABLE TO THE PUBLIC.

THAT THE MINISTER CONVEY THE CONCERN AND RECOMMENDATION OF THE COUNCIL TO THE FEDERAL GOVERNMENT.

THAT THE MINISTER NOTE THE COUNCIL'S THANKS AND APPRECIATION TO THOSE NATIVE PERSONS WHO TRAVELLED GREAT DISTANCES TO PRESENT THEIR OPINIONS ON THIS MATTER.

DELIVER TO:



Micromedia Ltd.,
144 Front St. West,
TORONTO, Ont.
M5J 1G2

Manitoba Environmental Council

BOX 139, 139 TUXEDO AVE.

WINNIPEG, MB

R3N 0H6

